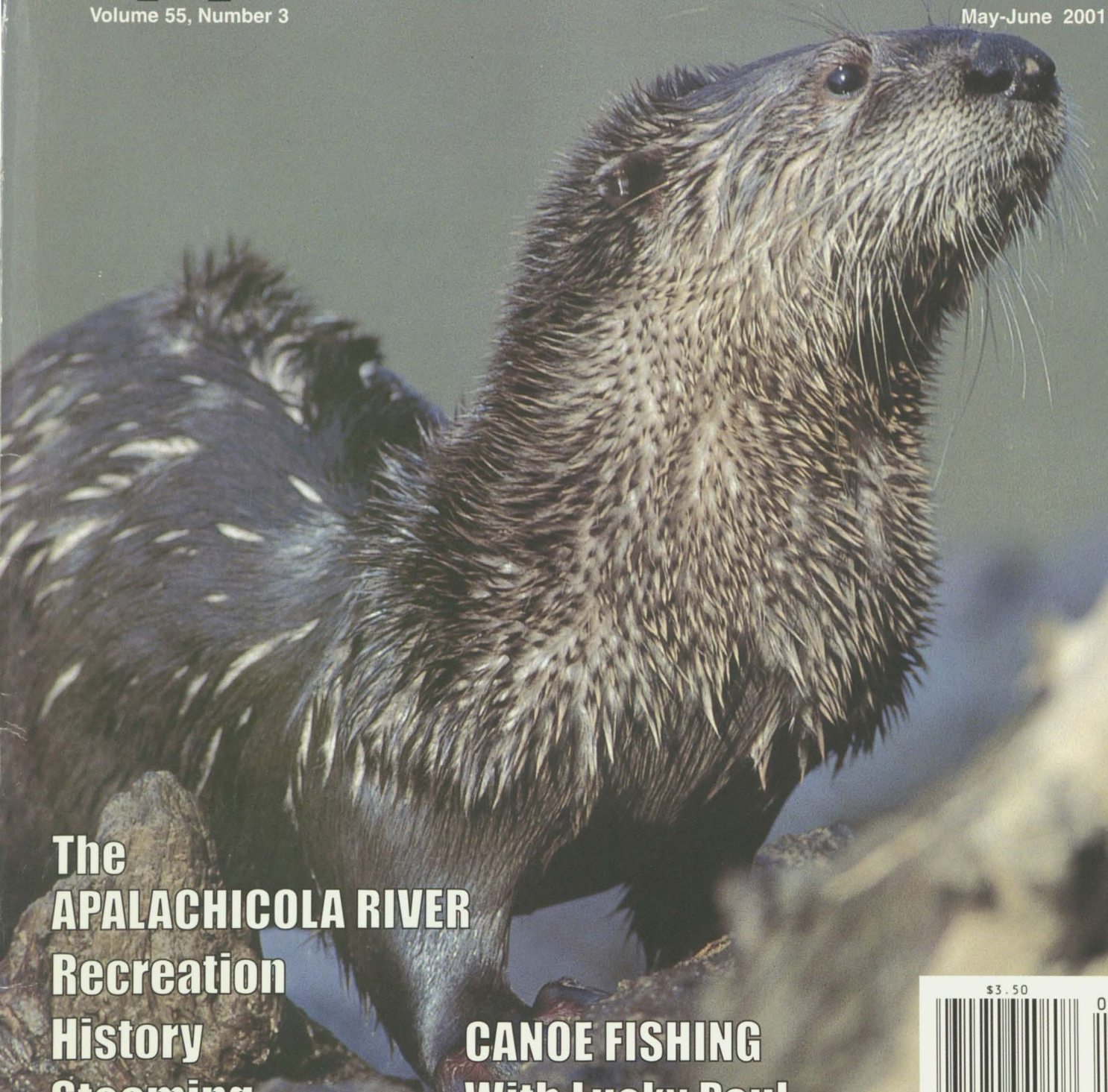


Florida **WILDLIFE**®

Volume 55, Number 3

May-June 2001



**The
APALACHICOLA RIVER
Recreation
History
Steaming**

**CANOE FISHING
With Lucky Paul**





Florida Fish and Wildlife Conservation Commission

2001
Publisher

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A Message from the Executive Director

Fish and wildlife is big business in Florida

Many of society's important decisions are based on their costs and benefits in terms of dollars. In order to be a factor in these decisions you had better be able to express your position in dollars. For this reason the Florida Fish and Wildlife Conservation Commission recently conducted a study on the economic impact of Florida's fish and wildlife-related recreation. This study found that in Year 2000 hunting, fishing and wildlife viewing resulted in an economic impact to the state of \$7.8 billion which supported 138,210 jobs. Economic impact is the total effect on the economy as a result of dollars spent on an activity. For example, dollars spent by an angler to buy a fishing rod at a retail store cascades through the economy as the retailer uses these dollars to pay for employee salaries, rent and other costs. Sales tax receipts to the state were derived from hunting and fishing product sales of \$336 million.

Clearly, recreational use of fish and wildlife is big business in Florida and decisions that affect these resources should consider the economic impact. By providing this information to the public we can foster a greater appreciation of our natural resources and how they contribute to the state's economy.

— Allan L. Egbert, Ph.D.

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Florida WILDLIFE

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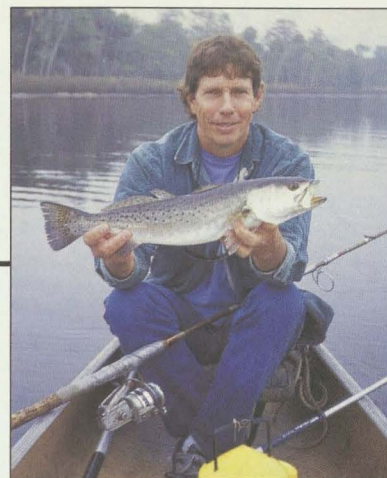
by Duel Christian

How many crabbers does it take to fill a pot? You'd be surprised.



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The river otter on the front cover was photographed by Ted Rose.



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The Apalachicola

108 Miles of Fun

By Henry Cabbage



River

James Valentine



It takes three days to paddle a canoe from the Jim Woodruff Dam all the way down to the mouth of the Apalachicola River, and that's if you don't want to stop and play along the way. You could take a lot longer if you really wanted to enjoy all the things the Apalachicola River offers.

You could start on the west bank, where you find the Three Rivers State Park. Before undertaking the adventure of trekking the length of the river, it's worth it to visit the park first, maybe even camp there for \$8, or go fishing for one of the monster largemouth bass that anglers pull out of Lake Seminole from time to time. If you want just to hike the nature trails or admire the wildlife and wild flowers or take time out for a picnic, admission to the park is \$2 per carload.

Then you can launch your canoe at U.S. 90 at Chattahoochee and paddle up to the tailrace at the dam, or you can fish from the dam's catwalk. The upper Apalachicola has a fabulous sunshine bass (hybrid striped bass) fishery in the spring and fall, and anglers have landed many state record sunshine bass right there at the dam. Be sure to take your fishing rod and a few jigs and spoons if you want a piece of this action. Sunshine bass like to school on the surface in the fall.

Fishermen catch some nice striped

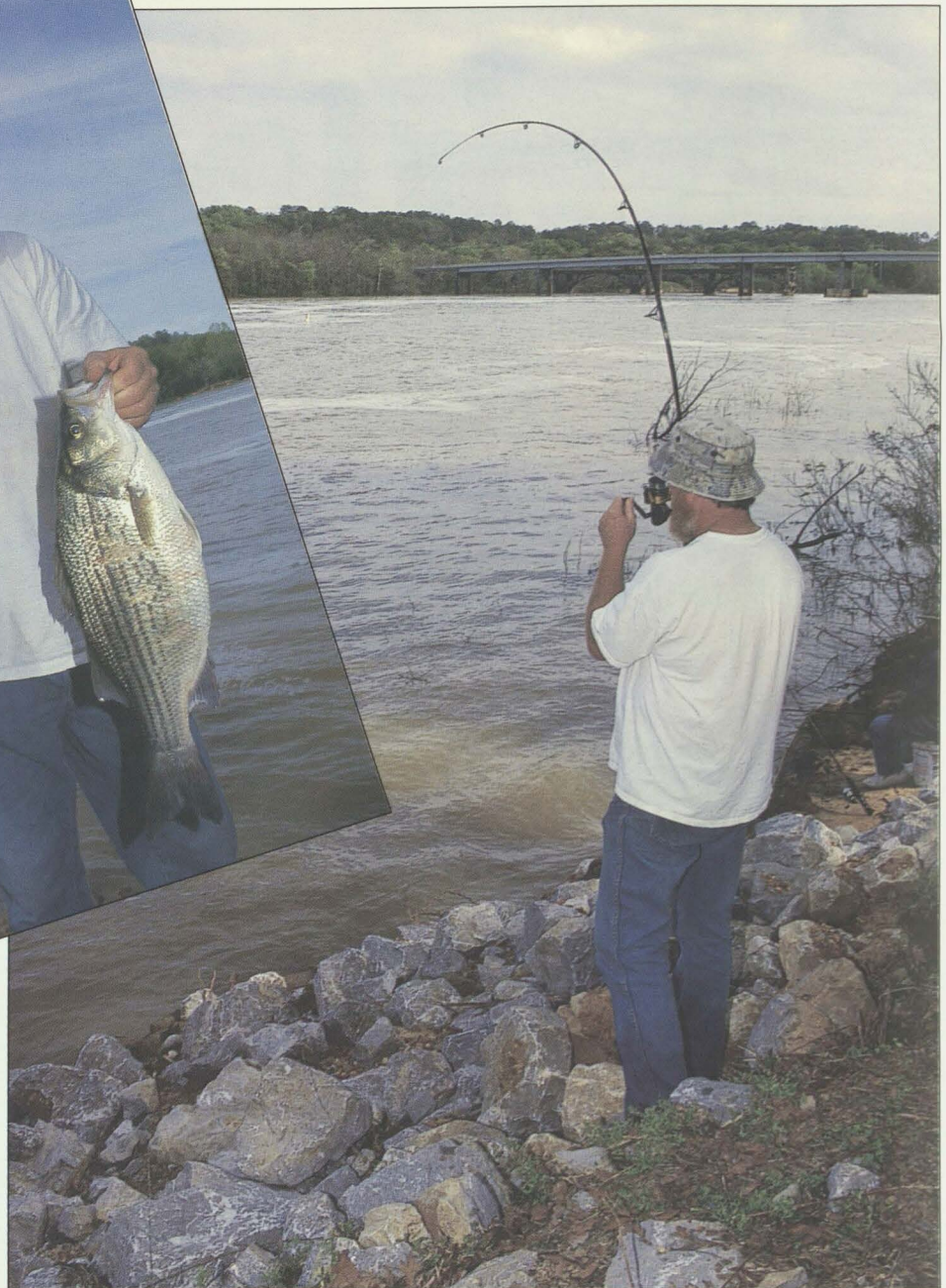
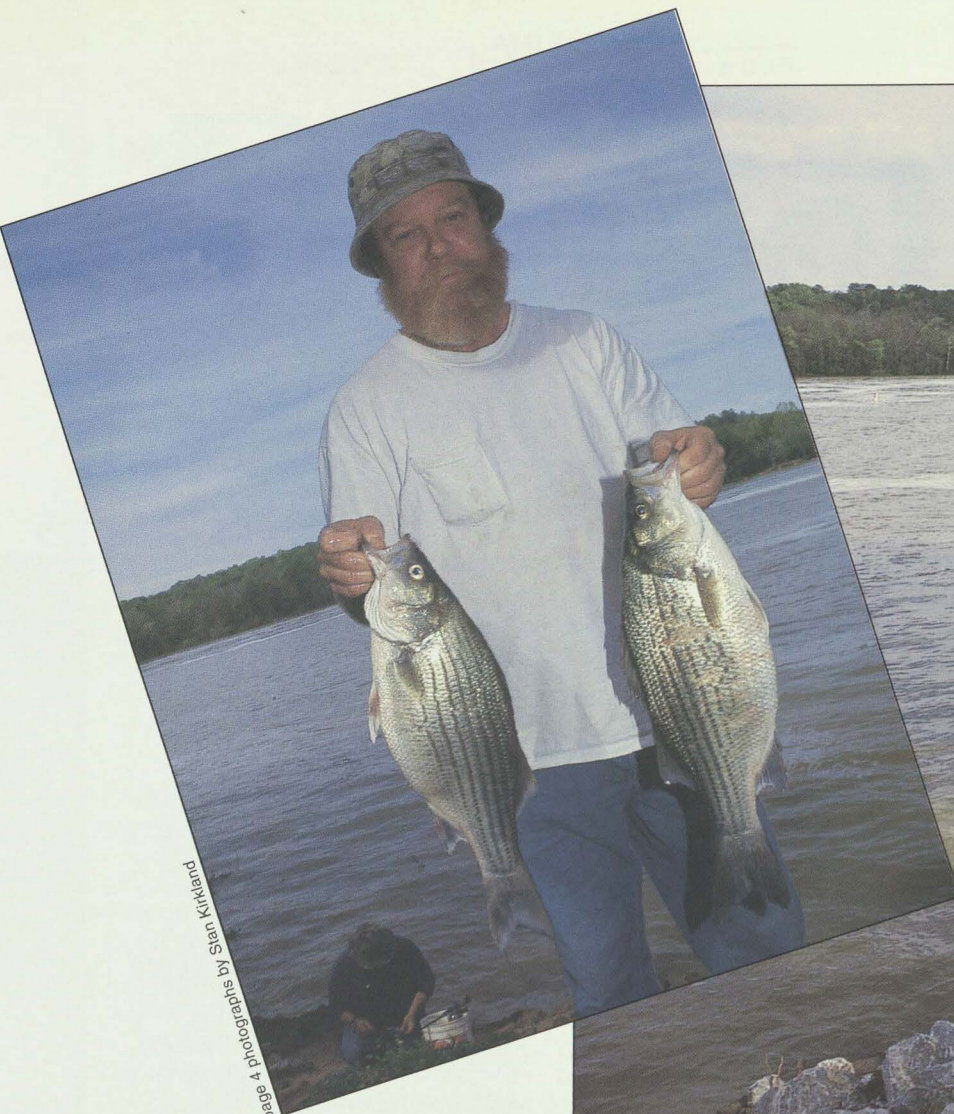
bass at the dam during the spring and fall, using small live eels and deep-diving minnow lures. It's not unusual for anglers to land stripers of 25-30 pounds, and biologists from the Florida Fish and Wildlife Conservation Commission have confirmed the presence of stripers up to 60 pounds near the dam.

If you go in March, you'll want to use small crayfish and grass shrimp for bait, and fish on the bottom, because there's where you can bag some nice white bass.

As you paddle down river, you can live off the bluegills you catch along the way, especially if you take the trip during the spring or early summer and fish with minnows and crickets. Also, you can catch some nice shellcrackers if you use redworms for bait and fish around shoal areas.

If you're more interested in catfish, go between March and November, and use legally caught bream for bait. "Legally caught" means you have to catch them with a hook and line, rather than a net. You fish for flatheads on the bottom in the deep channels, and you'd better have a heavy rod and reel with at least 30-pound test line. Fifty-pound catfish are swimming right now in the Apalachicola.

If you want to get real serious about fishing on your trip down the Apalachicola, take along some plastic



John Dunivan and two hybrid bass caught on the Apalachicola River.

worms and crankbaits and fish along the shoreline. That's how you catch Florida's famous largemouth bass on this river.

Keep paddling south, and just before you get to Bristol, you'll pass by one of Florida's rarest treasures – the species of torrey tree that grows nowhere else but atop the 150-foot bluffs of the Apalachicola River. The park isn't accessible from the river, but if you made arrangements ahead of time to have somebody meet you at the boat ramp at Blountstown and give you a ride to Torreya State Park, you'll have an excellent spot for a true nature lover to camp. Besides the torreyas, the park features many hardwood trees and plants you'd expect to find in the Appalachian Mountains of north Georgia. You'll also sleep amid the rare Florida yew trees and the U.S. Champion winged elm and many other threatened or endangered plants.

If you're in the mood for hiking, the park offers a 15-mile double-loop course.

You'll probably want to take the ranger-guided tour of the park's Gregory House, built in 1849.

Continuing your journey down the river, you'll be getting closer to the Apalachicola National Forest. If you go during the spring turkey season, and you have a little luck, you just might bag a gobbler for supper. If you go during the general gun season, you might try for small game or even venison. If it's not hunting season, you can look around for wild blackberries if you'd like nature to

help you out with the groceries. It's all there in the forest, and there are plenty of designated campsites along the river. During general gun season, camping is restricted to designated campsites, and you'll need to buy a \$2-per-night camping permit from the U.S. Forest Service, which you can purchase at the campsite. Outside of general gun season, camp anywhere you like, but be careful with fire.

You might want to stay in the forest forever when you discover it's the kind of

place where you just might get to see a magnificent bald eagle soaring overhead, or a black bear training her cubs in the skills they'll need to survive. But forest service regulations say you can only camp in the forest for 14 days.

When you continue your trip, you'll probably see alligators and waterfowl and hundreds of other animals come down to the river's edge to drink or feed or swim across, just as they have done for centuries. There isn't much development along the lower Apalachicola. It's true that there is a great deal of sterile sand, where nothing grows along certain parts of the river banks. That's the consequence of dredging the river to keep it open to barge traffic in the past.

There is legislation in the works to put an end to the dredging and let the river return to a more natural state.

Just before you reach the Ft. Gadsden Historic Site on the southwestern edge of the national forest, you'll find more campsites, and that's a good spot to spend another night on the river.

Numerous sloughs and streams feed the lower Apalachicola. It's a good place for catching sunshine bass during the spring and fall, primarily off sandbars, using live shad, jigs and spoons. This is also an excellent place to catch large-mouth bass with plastic worms or crankbaits during the spring, but during the summer, local anglers know to use live shrimp around the grass flats and canals to catch "bucketmouths."

Spring and fall, bluegills and shellcrackers never stop biting for very long and they go for earthworms and crickets there, just like they do everywhere else. Fly-fishing for bream early in the morning is great fun and can be quite productive.

A few more miles downstream, you'll see a change in the character of the fishing. Instead of bass and bream, you see people catching redfish, spotted seatrout and maybe even a few flounder—all of them saltwater species and excellent table fare. If you catch a few pinfish, they're good bait for all three species. Jigs and plastic grubs make excellent artificial baits for redfish and trout, and if you brought your cast net, you might find a school of mullet for the night's feast.

Once you clean or fillet your catch for cooking, you may want to save the

fish heads to use for blue crab bait. Lots of folks will tell you the only way to cook blue crabs is to catch them along the beach when you reach the Gulf of Mexico and boil them in seawater right then and there. Even a fish can't get seafood any fresher than that.

Maybe you're a little tired of eating nothing but the finest seafood in creation. Maybe you want something a little different that night. Well, there is the Apalachicola River Wildlife and Environmental Area along the river for the last 15 miles or so before you reach the city of Apalachicola. The wildlife and environmental area is open to hunting if you want wild game for dinner. Perhaps you're more in the mood for frog legs. Just slip on over to the wildlife and environmental area with your gig, and you'll be frying up a mess of frog legs in no time. Pitch your tent and stay all night. There's no permit requirement for camping. One thing to bear in mind is that parts of this area are reserved for special-opportunity dove hunt permit holders on Saturdays during the first phase of dove hunting season. It's wise to learn where those areas are before visiting the area.

The next morning, you resume the trip and a short while later, you see the John

Gorrie Bridge come into view. Once you reach the bridge, you're no longer in the river; you're in the historic bay that once was filled with sailing ships, full of their cargo of cotton. At one time the ships were so numerous in that bay Apalachicola's commerce rivaled that of New Orleans. Today, it's that same bay that produces the finest oysters and other world-renowned seafood.

One of the best-kept secrets in Florida is that Apalachicola Bay is also a pretty good place to go duck hunting. It offers a good mix of species and a duck population that is at least "moderate." When you just need one duck for one last meal as your excursion draws to a close, moderate is good enough.

Hunting, fishing, not to mention picking wild berries or wild mushrooms (if you know what you're doing), camping, hiking, nature watching, boating, canoeing, kayaking, or just listening to your own thoughts or the voice of the wind; that's what life is made of along the Apalachicola River. It's recreation that costs almost nothing. All meals included. 🍷

Henry Cabbage is the Florida Fish and Wildlife Conservation Commission public information director.

Stan Kirkland



A hunt camp along the Apalachicola River.

The Apalachicola

Winding Through History

By Stanley H. Kirkland

Growing up only five miles from Lake Seminole and the upper reaches of the Apalachicola River, I've often wondered what the area was like when Native Americans called it home and later during its great steamboat period of the 1800s. As a young boy in the 1960s I walked the banks of the river looking for artifacts such as flint and pottery shards. From a historical perspective the Apalachicola River played an immensely significant role in Florida history.

The Apalachicola River begins its 108-mile journey to the Gulf of Mexico at the town of Chattahoochee. The Chattahoochee and Flint rivers headwaters are in the Piedmont Plateau region near Atlanta, Georgia, and flow south joining just above the town of Chattahoochee to form Lake Seminole.

The earliest inhabitants of the area of course were Native Americans. They left no written records. Archaeologists say the Apalachee (north Florida), Lower Creeks (south Alabama and Georgia) and Upper Creeks (north Alabama and Georgia) arrived in the Southeast about 12,000 years ago. The Apalachee and Lower Creeks prospered along the Apalachicola, Chattahoochee and Flint rivers as they fished, hunted and farmed. Spanish explorer Hernando De Soto and his soldiers reported finding many Indians near what was later to be known as Tallahassee and surrounding areas in the period 1539-1543.

While there are arguably a number of significant "events" that occurred along the Apalachicola, one of the first happened in the area we know today as Fort Gadsden State Park between

Wewahitchka and the town of Apalachicola. In 1814 the British were driven out of Pensacola, but under Col. Edward Nicolls encroached upon the Spanish soil of East Florida and established an earthen fort at an area known as Prospect Bluff. Nicolls and his men recruited runaway slaves and restless Indians to man the fort and harass river traffic.

Nicolls and his British detachment withdrew on April 22, 1815, but not before "extracting an oath from the blacks and Indians to kill all Americans in the area." Reportedly, he left behind nine cannons, 2,500 muskets, 500 carbines, 500 pistols, 500 swords and more than 700 kegs of gunpowder and shot. Overlooking the river on a 15-foot bluff with a commanding view of all river traffic, the "Negro Fort" as it became known, essentially halted river traffic.

General Andrew Jackson was fresh off successes against the British at New Orleans and gave orders to "destroy the Negro Fort regardless of the ground it stands on." On July 27, 1815, U.S. Gun Vessel 154 traveled up the river and anchored before daylight an estimated 3,000 yards down river from the fort against the western shore (Forbes Island). It was spotted at first light by the inhabitants of the fort and immediately fired on, the cannon shots hitting harmlessly in the river. Under the command of Sailing Master Jairus Loomis, Vessel 154 fired four 12-pound light cannon shots to judge the distance and then a single heated cannonball from an 18-pounder. The red-hot cannonball penetrated the wall of the Negro Fort, hit the magazine, and in the explosion that ensued, an estimated 250 men, women and children died out of 300 total inhabitants within the fort.

In March 1818 Jackson returned to ▷



Tom Fisher points upstream where Fort Gadsden fired on passing boats.

Stan Kirkland

River



James Valentine

Prospect Bluff with a contingent of soldiers and instructed Lt. James Gadsden, an engineer, to rebuild the old fort. It took Gadsden and his men only 10 days to complete the task and Jackson soon left for Pensacola. The fort renamed Fort Gadsden, was occupied by American troops until 1821 when Spain ceded Florida to the United States. It was never occupied after that.

Another notable historical landmark along the river built in the 1840s is the Jason Gregory House at Torreya State Park above Bristol. Jason Gregory was a wealthy planter who came to the area in the 1830's and bought large tracts of land on the west side of the river at Ocheesee Landing (opposite side of the river from the Gregory House's present location). He built a large steamboat dock, warehouse and a plantation with quarters for 43 slaves. By this time steamboats were regularly moving up and down the river,

and his Ocheesee site played a significant role in shipping cotton and other farm products for area farmers.

In 1845 Gregory selected a site near two large oak trees at the landing and built the Gregory House we know today on five-foot brick columns. The height of the house was to serve as protection against periodic flooding of the river. It was in this house Gregory and his wife raised a large family, but reportedly several children died and were buried nearby.

Following the Civil War, Gregory moved his family, away from the area but a daughter, "Chaffa," returned in the 1890s and lived in the house for years. The house and property changed hands several times and one man was reportedly murdered in the house. The property was purchased by Neal Lumber Company in the 1920s and the owner, W. T. Neal, gave the abandoned house along with acreage

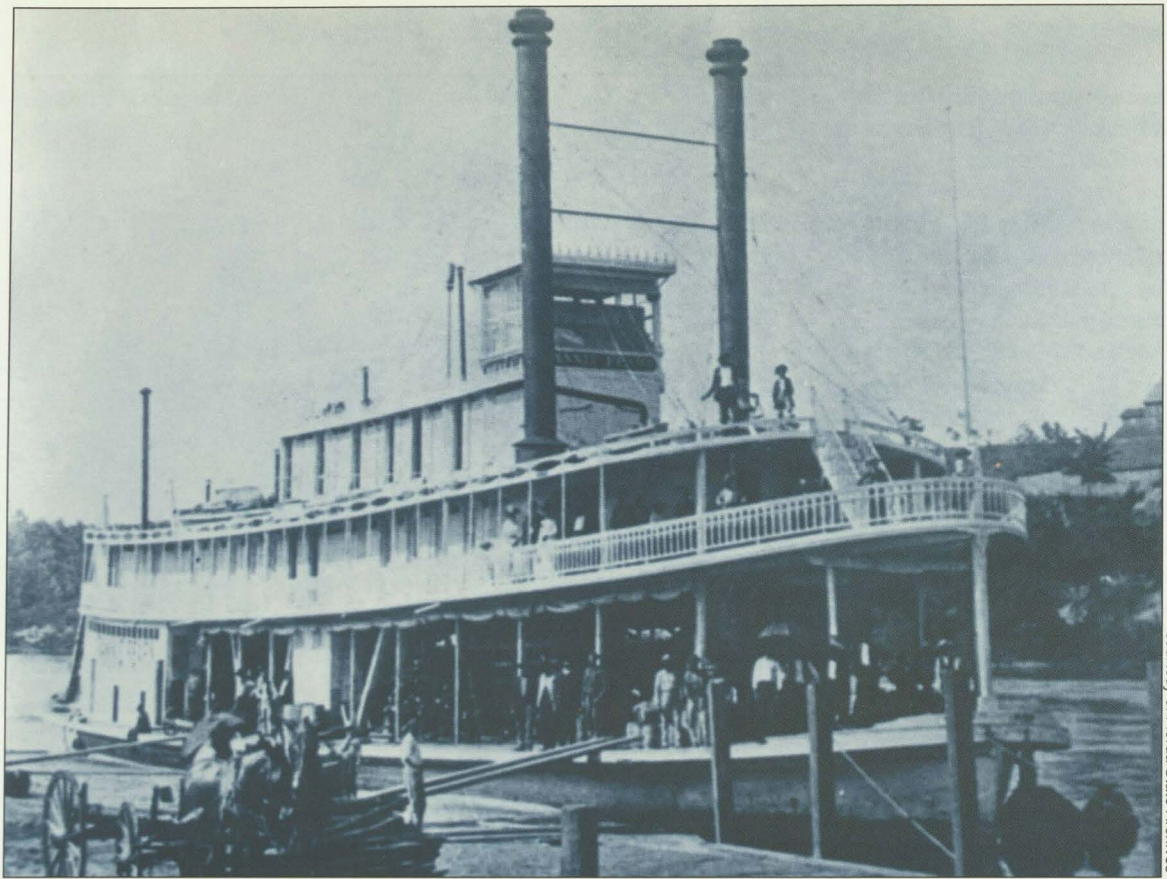
in Liberty County, to the newly created Florida Park Service in 1935. It took more than three years for the house to be moved across the river to its present location.

Perhaps the most significant event to occur along the banks of the Apalachicola happened in the 1840s in the town of Apalachicola. It was there, after several years of caring for people afflicted with malaria, that a Dr. John Gorrie had an idea that would change the way we live. Gorrie watched the people of Apalachicola and nearby Port St. Joe suffer and die from the fever. About the only thing he could do to bring relief to his patients was to treat them with ice. His pioneering work in developing an ice machine is recognized today as laying the groundwork for modern refrigeration and air conditioning. 🌿

Stanley H. Kirkland is the public information director of the FWC Northwest Regional Office, Panama City.



The historic Gregory House at Torreya State Park.



courtesy of Florida State Archives

THE STEAMBOAT ERA

on the Apalachicola, Chattahoochee and Flint rivers

By Stanley H. Kirkland

If you look at aerial maps or navigation charts of the Apalachicola, Chattahoochee and Flint rivers, you see the twisting turns, bends and the tortured path the rivers make from their origins in North Georgia to the Gulf of Mexico at the town of Apalachicola.

Although hostilities between early settlers and Indians continued well into the 1840s, settlements began springing up near the three rivers in the early 1800s. By March 1819 there were several hundred Georgians living along the Chattahoochee and Flint rivers. Towns like Columbus, Georgia, and Eufaula, Alabama (first called Irwin Town) and West Point, later renamed Apalachicola, got their start from settlers and farmers

who decided to live along these rivers.

It was also in the early 1800s that steamboats showed their worth on the Mississippi and Ohio rivers. It was only a matter of time before business entrepreneurs brought the smoke-belching side-wheelers and later the stern-wheelers to the Apalachicola, Chattahoochee and Flint rivers. These visionaries were out to make money and saw value in commerce, passenger travel and mail delivery. Traveling from ports along the Gulf in the 1820s steamboats began making runs from the town of Apalachicola up to Mt. Vernon (now known as Chattahoochee), a distance of 108 miles, and then either up the Flint to Bainbridge, Georgia, a distance of 29 miles, or from Mt. Vernon up the Chattahoochee River to Columbus

and present-day Phoenix City, Alabama, a distance of roughly 224 miles.

As Indians were being displaced throughout the south and farming intensified, plantation owners and farmers looked to the river to ship their products, particularly cotton. Prior to the steamboat days goods were sent downstream on pole boats and bateaus to Apalachicola. If they could return against the current, they brought groceries, manufactured goods and much needed salt. Often times the river flow was such that goods had to be hauled north by wagon and mules or oxen and the quantities of goods shipped by wagon were small.

While a number of small sailing vessels with one or two masts or oarsmen were able to navigate some distance up

the Apalachicola River, Edward Mueller records in his book *Perilous Journeys: A History of Steamboating on the Chattahoochee, Apalachicola and Flint Rivers, 1828-1928*, that the side-wheeler FANNY (also known as the FANNIE) was among the first steamboats to make the trip up to the Apalachicola River in 1827. The FANNY was an 88-ton steamer built in New York City in 1823. She was 89 feet long, 17 feet 4 inches wide and had a 6-foot deep hold.

On her maiden voyage the FANNY found one place in the river that was blocked side-to-side by trees and snags and had to cut a 20-foot wide path in the tangle before eventually reaching Ft. Gaines, and finally Columbus. On this trip or perhaps another one the FANNY struck a sandbar a few miles below Columbus and her boilers blew up. That location today is still known as the "FANNIE sand bar."

The second steamboat to apparently travel upriver all the way to Columbus was the STEUBENVILLE on Feb. 6, 1828. The 148-ton steamboat was built in Steubenville, Ohio, and could make the 330-mile trip from Apalachicola in 86



Shan Kirkland

The Grady building in Apalachicola is where customs was located in the mid 1800s. Taxes were paid here before goods were transported inland.

Page 11: The old Sponge Exchange on the Apalachicola, 1840s-1970s.

Below: The FANNIE was part of the fleet that began the steamboat era along the Apalachicola.



courtesy of the Florida State Archives

hours. She could carry 700 bales of cotton or 1,100 barrels of flour.

In terms of river traffic and commerce, the Apalachicola, Chattahoochee and Flint rivers would never be the same.

By the 1830s and '40s there were a growing number of steamboats operating on the rivers shipping cotton south for export, and goods north to the towns. In 1828, 496 bales of cotton were moved south, in 1829, 1,200 bales and in 1830 that grew to more than 5,000 bales.

In April 1835 the *Charleston Courier* described the typical steamboat on the Apalachicola River. "Her burden is about 130 tons, her draft of water light is 20" and loaded, 30" to 35". She will carry 1,000 bales of cotton . . . and 50 passengers. She costs \$8,000 and after two years is worth \$5,500."

Early records indicated that a five or six-foot channel was available most of the year throughout the river system but that may not have been the case. Quite a number of the 130 or so steamboats that operated up and down the rivers sank or burned after striking submerged snags, rock shoals and sand bars. While operating during the day could be risky, traveling at night invited disaster, especially during the early years of river commerce.

One such disaster occurred on board H.S. SMITH on March 24, 1850 while on a run down river from Columbus. The vessel was loaded with 1,015 bales of cotton and a number of passengers and when fire broke out, it moved so swiftly the huge paddle-wheeler couldn't even be beached. Two passengers and two deckhands drowned while trying to swim to safety. One of those lost was General

William Irwin, who served in the Creek Indian War of 1814. He was returning home after selling his cotton crop, but reportedly jumped overboard with \$8,000 in gold secured in his clothing and neither his body nor the gold was ever recovered. His wife erected a monument to him in his hometown of Eufaula, Alabama.

During the Civil War years steamboat traffic and commerce basically came to a halt on the Apalachicola and points north. Union forces blockaded Apalachicola Bay and most of the steamboats and sloops that tried to run the blockade were captured. You get an idea just how devastating the war and blockade were when merchants and businesses reportedly shipped more than \$14 million in cotton and other products through Apalachicola the year prior to the war but literally nothing from 1861-65.

When the war was over steamboat travel returned. New and larger boats moved cotton and other freight. There were numerous sawmills along the river, including several on the Apalachicola, and millions of board feet of long leaf pine and cypress were shipped to far-off destinations.

J. E. Grady, the collector of customs at Apalachicola, wrote on June 30, 1896, that for the year 750 trips had been made up and down the river by steamers carrying goods and cargo. That year alone more than 51.3 million board feet of lumber moved through Apalachicola, three oyster-canning factories turned out up to 50,000 cans of oysters per day and 6,000 barrels of salted fish and crates of sponges were shipped bringing in close to \$4 million in revenue.

Panama City resident John Hentz was born Feb. 15, 1911, in the Lake Mystic community of Liberty County. Even to this day Hentz can clearly remember as steamers would blow their whistles alerting people they were docking.

"It was

exciting to see those big boats 'cause I was just a small boy at the time," Hentz said. He said he only took one trip on a steamboat.

Although the problem of snags and shoals had long since been known on the three rivers, Congress officially designated the U.S. Corps of Engineers (COE) in 1875 to "improve the river(s)" by providing a channel 100 feet wide by six feet deep. A 1900 COE publication says that the steamboat CLARA DUNNING was bought (by the COE) and fitted as a snag boat for use on all three rivers. More than 300 snags and logs were pulled from the river that first year but in most years that followed the number of overhanging trees cut or snags removed grew. Even during the late 1800s the COE explored ways to maintain a navigable channel and that included the placement of jetties (later called dike fields) to increase water flow.

As the great steamboat era came to a close in the early 1900s due to competition from railroads, road improvements and declining passenger use, the A-C-F system as it became known, saw more modern boats (barges) powered by internal combustion engines.

In 1946 Congress passed the River and Harbor Act which specified a 100-foot by 9-foot channel in the ACF system from Apalachicola all the way to Columbus, and from Chattahoochee to Bainbridge. Since then a total of 16 dams have been built on the three rivers, with 13 of them on the Chatto-hoochee. In addition to snagging work, removing rock shoals and dredging, a number of bends in the Apalachicola River have been removed to facilitate barge traffic, in the process shortening the river by two miles.

Today work is underway on several fronts to get Congress to de-authorize the Apalachicola River as a navigation waterway and its channel maintenance requirements due to the long-term negative effect on fish and wildlife species associated with the river. If the effort is successful, it will end a chapter of the Apalachicola where the river provided a transportation link for Florida and points north for almost 200 years. ●

Stanley H. Kirkland is the public information director of the FWC Northwest Regional Office, Panama City.



Stan Kirkland

The Apalachicola River Today

By Ted Hoehn

The Apalachicola-Chattahoochee-Flint (ACF) river system is the center of a tug of war over water rights between the states of Alabama, Georgia and Florida. The three states are working to resolve how the water can be used while preserving the river and bay ecosystems. The discussions have been going on for more than a decade.

In 1997 the three states and the federal government signed a document that created the Apalachicola-Chattahoochee-Flint River Basin Compact Commission. The Commission is charged with developing a water allocation formula that divides the water between the three states and the federal government. The water allocation formula must be adopted by unanimous consent among states before it will be submitted to the federal government.

Although negotiations were supposed to be completed within a year, discussions have been on-going for more than three years. Florida wants to preserve the high and low flow patterns necessary to maintain the integrity of fish and wildlife habitat and the functions of the river and bay systems. Georgia wants water for Atlanta, for farming in southwest Georgia, to keep reservoirs full for recreational purposes and for use during a drought. Alabama wants the water for cities, for industry and for navigation. The federal government wants adequate water levels to protect listed species and meet standards regarding water quality, flood control,

and other federal statutes. The three states have been in mediation since November in an attempt to find common ground.

The U.S. Army Corps of Engineers (COE) is required by Congress to maintain a navigation channel and operate the federal reservoirs for a variety of purposes, including flood,

barges for a ten-day period. These releases are called navigation windows. One, in April 2000, resulted in the stranding and loss of thousands of fish and contributed to water shortages throughout the basin during the summer of 2000. Florida Senator Bob Graham and Congressman Alan Boyd along with Georgia Congressman Bob

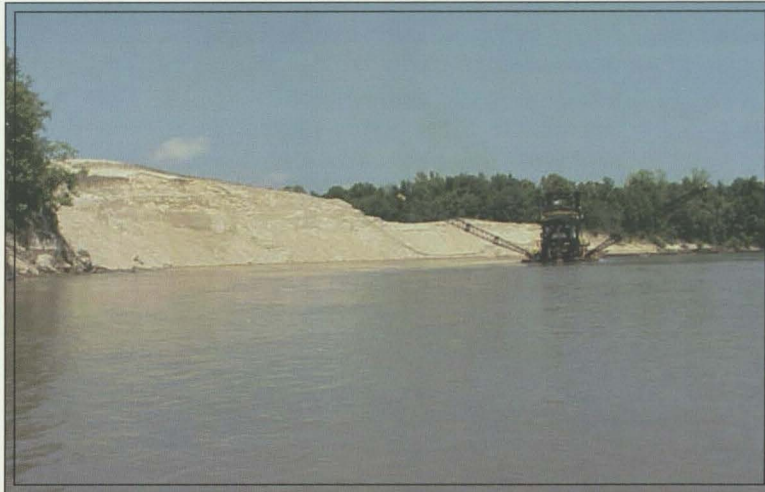
Barr attempted to de-authorize the federal navigation channel during the 2000 Congressional session. While their effort was unsuccessful, it is likely that modifications to the federal project authorizations will be pursued over the next two years.

The navigation channel is the third most expensive in the country. The cost to keep it open translates into almost 14 cents-per-ton-per-mile traveled. That is 141

times more expensive than the cost of maintaining a channel along the Ohio River.

Also, the state permit for dredging requires the COE to restore at least 20 sloughs and streams throughout the Apalachicola basin. Many of these are no longer connected to the river due to the lowering of the riverbed and being blocked with sand. The COE, along with the FWC and other state agencies, is restoring the streams with \$1.2 million appropriated by Congress. The agencies are also looking for sites that can use the sand piled up from the dredging of the Apalachicola. ●

Ted Hoehn is a biological scientist in the FWC's Office of Environmental Services in Tallahassee.



The Corley Slough "sand mountain" disposal site on the Apalachicola River.

Photograph by FWC

hydro power, recreation and navigation. But the dredging of the channel and the disposal of the dredged material within the banks of the Apalachicola River results in degradation of habitat. Florida Fish and Wildlife Conservation Commission fisheries biologists documented the addition of 25 miles of sand habitat from 1947-1980, and a 75-percent reduction in sport fish population in areas that were converted to sand.

In periods of low water, the COE often releases water from the reservoirs to raise the river high enough to float



Ben Essenburg's *Rise and Shine*

Wildlife artist Ben Essenburg has released his latest limited-edition print, *Rise and Shine*, featuring a red-tailed hawk. The print image size is 18" x 22" and the sheet size is 22" x 31".

To order *Rise and Shine* or previously released *Local Color* and/or *Generations*, please send a check or money order to Wildlife Foundation of Florida, Inc., Essenburg Prints, PO Box 11010, Tallahassee, FL 32302. Each print offered will be signed and numbered by Ben Essenburg and shipped in a flat container via UPS. Each print costs \$80. There is a \$10 shipping charge per order. Multiple prints may be shipped as one order. Florida residents please add \$5.60 tax for each print ordered.

Proceeds will be deposited with the Wildlife Foundation of Florida, Inc., a not-for-profit foundation. One-half of the print cost will help defray the *Florida Wildlife* magazine's manuscript, art and photography expenses.

Flamingo's Controversial Nest

By Robert Craig Shupak

Ospreys build stick nests on tall structures such as trees, cliffs, buoys, telephone poles and bridges to get a view of the water and avoid predators.



It was late afternoon in early March when we arrived in Flamingo, the southernmost reach of civilization in the Everglades National Park.

During the stairway climb to get to the only restaurant there, our thoughts about dining were interrupted by a piercing “cheereek cheereek cheereek.” Although I suspected the source of the calls was a bird of prey, it was difficult to locate because my view was blocked by the building. My wife called me to the edge of a railing near the restaurant’s entrance, where I leaned over and peered upward. An eagle-like bird with white underparts and dark eye stripe was perched in a large nest situated on a tower high above us. It was a *Pandion haliaetus*, the common osprey. I had observed this species before and decided to return the following morning with my camera.

I set up my photographic equipment on the grounds surrounding and some distance away from the building with the tower. Good morning light with a few passing background clouds afforded nice views of the osprey pair inhabiting the nest. The male frequently flew away, presumably to feed by diving underwater and using specially adapted spicule-covered feet to grip fish. About 20 to 30 minutes later, he returned with nest lining material such as dried grasses or seaweed in his talons. Landing appeared tricky especially in windy conditions because the nest was ensconced amongst numerous protruding and spinning equipment on the tower. The female cried out frequently when her mate approached or was nearby. She remained behind in order to protect

eggs or young from exposure and marauders including other ospreys and vultures. The female osprey generally lays several eggs that are whitish with red spots. She incubates them for five weeks, relieved by her mate in order only to feed. Once the eggs hatch, feeding the family becomes the responsibility of the male for about six weeks. After ten weeks of age, hatchlings are ready to fledge. Young birds were not likely present at this time since I did not observe a parent return to the nest with fish for several hours during the morning.

Ospreys build stick nests on tall structures such as trees, cliffs, buoys and telephone poles to get a view of the water and avoid ground threats from racoons and the like. Now, I would like to add a weather station to the list after realizing that on this tower were weather vanes, antennae and an anemometer to measure wind force and speed! The resident osprey pair, apparently accustomed to these fixtures, ignored the equipment and

displayed normal nesting behavior. Building material may be added to the nest each season for decades making the structure five feet or more in diameter and several feet thick. I was later informed that the weather station nest was less than a year old. Although the ospreys showed indifference to the man-made clutter surrounding them, I began to wonder whether their presence affected the weather station's operation and the importance of this station to weather forecasters.

Roy Wood, an Everglades National Park Ranger, told me that the location of the osprey nest is indeed a sensitive one to many people. That is, this weather station tower erected by the National Oceanographic and Atmospheric Administration (NOAA) and used by the National Hurricane Center (NHC) is the only one in the extreme southern Florida

area. In addition to other meteorological parameters measured by this weather station, wind speed and direction help the NHC track incoming storms. Unfortunately, some of the sticks placed by the ospreys to form the nest interrupted the function of weather vanes and the anemometer. With the approval of the National Park Service (NPS), NOAA personnel removed the nest when no eggs or young were present. However, the ospreys rebuilt the nest. Next, weather service personnel attempted to block the building program by first installing spiked, then triangular metal deterrents on the tower. They didn't appreciate the birds' desire to nest at this location. In fact, the ospreys used the deterrents to better anchor newly placed sticks, making ▷



Charlie Heidecker

The female osprey generally lays several eggs that are whitish with red spots.

the renovated nest more secure than ever! NOAA officials ultimately devised a new weather detection instrument package that was placed lower on the tower and hopefully out of the way of the osprey activity. Since October of 1999 the birds have been very busy building an almost entirely new home of sticks! Presently, they are doing fine and the weather station is functioning.

The NPS allowed the other agencies to disturb the nest because the weather station is important, and the osprey as a species is fairing well in much of Everglades National Park. Florida Bay's resident osprey population has been a special concern, however. Its variability has followed a different course in recent years from that of populations in the rest of the Florida peninsula. Citing a report from the South Florida Ecosystem Restoration Taskforce, Ranger Wood presented the following summary. From

1968 to 1973, about 200 nesting pairs were present in the Florida Bay area of the park. This number declined to 70 in 1993 possibly as a result of the combined effects of latent DDT, heavy metal toxicity and the inability to see prey due to water turbidity. This latter figure has remained stable or slightly increased according to 1999 census estimates obtained by NPS biologists. Surveyors also found that the total number of nesting pairs in the entire park was about 140, with the additional ones located northward to Everglades City and the Ten Thousand Islands areas. According to the taskforce, 150 nesting osprey pairs would represent full recovery of the species in Florida Bay. Monroe County is the only Florida county where ospreys are listed as a species of special concern by the Florida Fish and Wildlife Conservation Commission.

This story illustrates there is a way to

preserve our natural world that also protects human interests. Humans must coexist with the rest of the natural world. I believe that our health as a species is reflected to a great extent in the well-being of other top predators like the osprey. This is because they are very sensitive to factors that affect the food chain such as pollution, habitat destruction and over-harvesting. Conservation efforts have aided the recovery of the Florida osprey population. Their continued recovery will undoubtedly enhance our lives in ways that are not yet measurable. I remain cautiously optimistic about our concern for other life after my experiences involving Flamingo's controversial nest. ●

Robert Craig Shupak, an anesthesiologist living in Greer, Arizona, frequently visits Florida and enjoys photographing and writing about its natural treasures.



While eggs are incubating the male and female osprey will tend the nest in shifts.

OCALA HUNTER EDUCATION CAMP

FIVE WEEKLY CAMPS

BEGINNING

**JUNE 24-29 THROUGH
JULY 22-27, 2001**

The Ocala Youth Conservation Camp, located in the Ocala National Forest, is reopening in June with a summer camp program. The camp, which is now called The Hunter Education Training Center, will offer a variety of outdoor education programs throughout the year.

The summer camp program will provide campers with the skills to become better sportsmen and women and instill an awareness of firearm safety and wildlife stewardship. All campers will enjoy fishing, canoeing and hiking.

The Basic Program is for campers ages 10 to 15 and includes earning a Hunter Education certificate, wilderness survival, first aid training, canoeing, fishing and game and wildlife management.

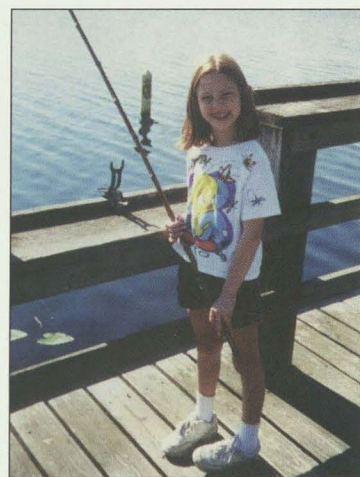
The Advance Program is for campers 13 to 15 who have previously completed a Hunter Education course. In addition to the above activities the advanced campers will participate in off-camp hiking, camp overnight on the Ocklawaha River and have an opportunity to earn certificates in bowhunting and boating safety.

Tuition is \$225 per camper, which includes lodging, all meals and snacks, program materials, instruction and secondary minor accident insurance.

For registration forms, camp requirements and summertime employment opportunities at the Center, contact Greg Workman, director, Hunter Education Training Center, P.O. box 2516, Silver Springs, FL 34489.

Phone (352) 625-2804 FAX (352) 625-0333
E-mail: workmag@gfc.state.fl.us

The Ocala Hunter Education Camp is a service of the Florida Fish and Wildlife Conservation Commission, <http://www.myflorida.com/fwc>

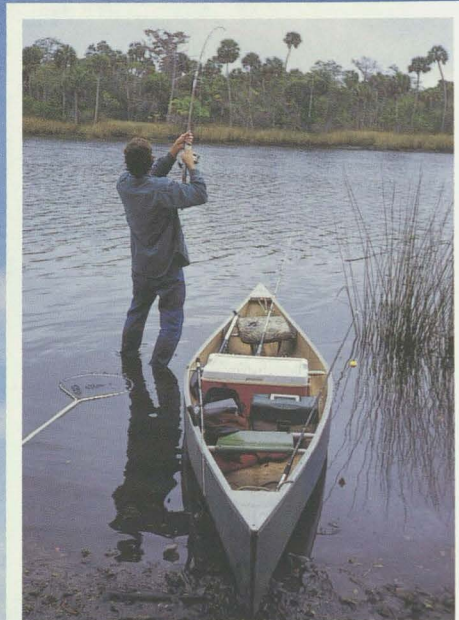


Fishing trips with my neighbor Paul are always fun. We're almost guaranteed to catch fish. You've probably met guys like him; there is just something they do that drives fish to bite. They can catch fish when no one else is catching fish. And so when Paul and I began driving to the coast for some fishing and he asked me where I wanted to fish, I wasn't worried. We would catch fish wherever we went.

We had reached the tiny town of Newport along the St. Marks River and Paul laid out the options. "Well, we can go fishing at the St. Marks Lighthouse. I always catch fish there," he said, "or, we can go to the lower Aucilla River. I went there Saturday and did pretty well."

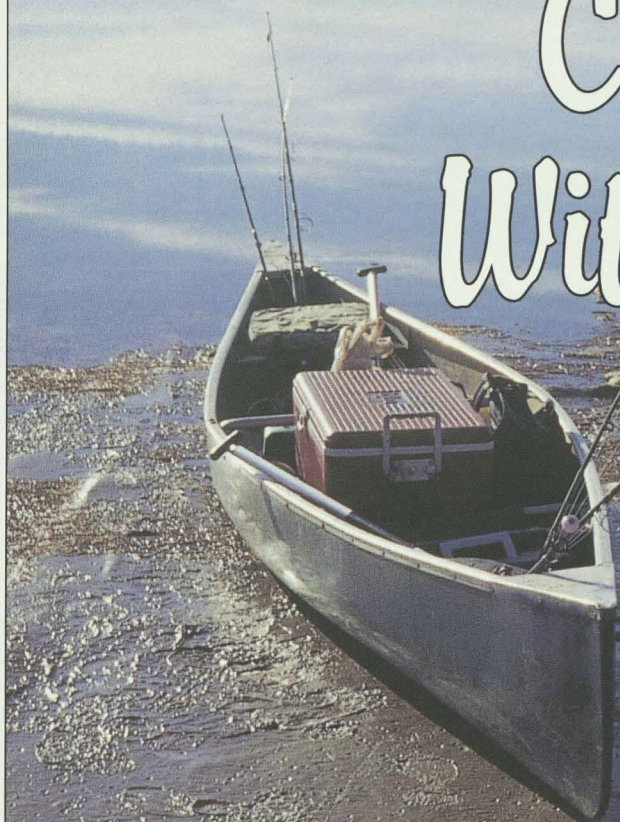
I thought for a moment. The turn off to the lighthouse was coming up quickly. "Well, I've been fishing those flats off the lighthouse several times, and it's usually good. But I've never been to the lower Aucilla. Might be nice to try a new place."

Paul kept driving on Highway 98, past the lighthouse road. New adventures are always fun.



Canoe Fishing With Lucky Paul

Text and Photographs by Doug Alderson



After about twelve miles on the paved highway and then a few miles south on a graded dirt road, we reached the public boat landing on the lower Aucilla. Morning fog enshrouded the wide river, giving people on the water a ghostly appearance. By the many trucks and trailers parked near the landing, it was apparent that this fishing hole was no secret. "You should see it on weekends," said Paul. I was glad that this was a Tuesday. Paul, a tall wiry fellow with a perennial sun-weathered face, worked as a finish carpenter. When work slacked off, he went fishing, often during the week when the waters weren't so crowded.

A salty character wearing a sailor's cap and rubber boots greeted us – the landing's caretaker. Taylor County and the St. Marks Wildlife Refuge jointly ran this landing, and they charged three bucks to launch a boat, even for a non-motorized canoe. We soon learned the value of our three bucks. The caretaker told us where the fish were. "Not as many mullet upriver," he said. "Not cold enough. But the trout and reds should be coming in with the tide. You might get a couple." That's what we were banking on, but we sought more than a couple. We also saw the caretaker help people launch their boats – another great service.

After pushing off the bank, Paul suggested that we float downriver since the tide was out. I didn't argue. Paul was a renowned fisher in our neighborhood, one with uncanny luck. At our weekly potluck dinner gatherings, he always provided recently caught broiled fish. On more than one occasion, he caught fish when I didn't catch fish, and I'd be sitting right next to him! Increasingly, I began to scrutinize his methods.

If fishing with shrimp or any live bait, Paul uses a short hook and completely covers it. He keeps the spool on the reel open and lets the fish really take it for a few seconds before setting the reel and jerking back hard to hook the fish. Paul makes his own wire leaders that he says are thinner, less visible in the water, but just as strong as commercial ones. He ties the leader directly onto the hook so the extra metal of a snap won't spook fish. Also, for saltwater fishing, Paul generally puts out two or three lines at once: one pole with shrimp on a bobber, one with shrimp without a bobber and one

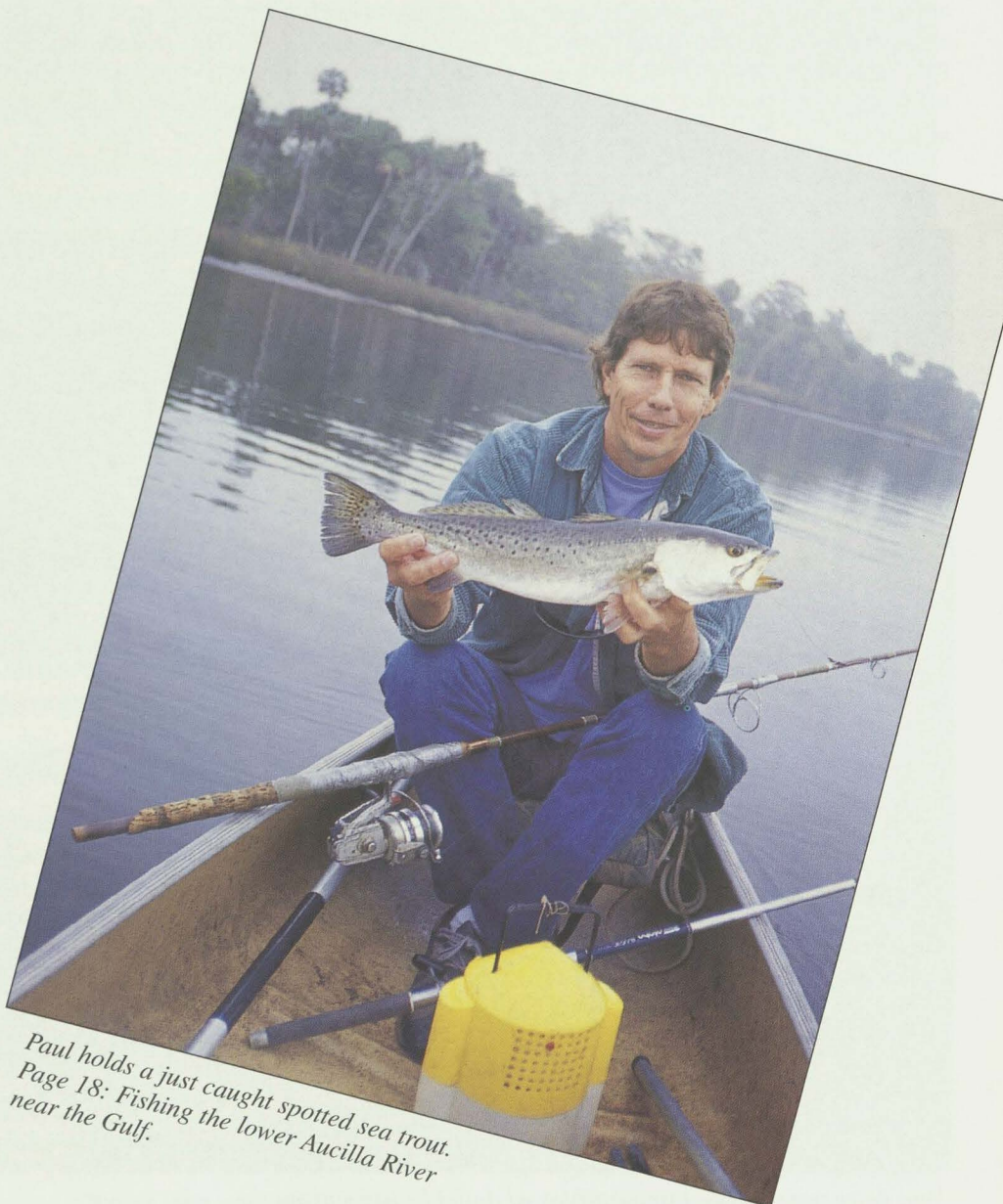
with a chunk of cut fish on a hook.

Another thing that Paul does is that he always uses a canoe. "There are pros and cons of each kind of boat," he says, "but with a canoe, you don't have to mess with trailers, hitches, gasoline boat permits and most boat landings are free for canoes. It's about the only kind of boat fishing that is economical." Not exactly an advertisement for the marine industry, but great for people on a budget. Add the advantage of being able to get into remote places quietly, and the canoe has many pluses. The main negatives are obvious too – instability in rough water and not a lot of room to move around, especially for the person sitting in the stern, like I usually did.

After drifting a half mile or so, some fish began nibbling on our shrimp. Paul

gently placed the anchor in the water and released it. In a canoe, you don't just heave the anchor overboard. Sudden movements are a no-no, for obvious reasons.

Sometimes, I go fishing by myself in a one-person canoe using a kayak paddle. It works great. Most everything I need is in front of me, but the most awkward part is trying to lean back far enough to drop the anchor, or to pull it up. I tried tying the anchor near the middle of the canoe once to make it easier. It met with near disastrous results. The wind was blowing hard and having the wind hit me broadside in such a small canoe nearly tipped me over, especially when I started pulling up the anchor. In wind, anchors for canoes need to be in the stern or bow – or else. ▸



*Paul holds a just caught spotted sea trout.
Page 18: Fishing the lower Aucilla River
near the Gulf.*

Being more stationary, Paul and I soon learned what was nibbling at our bait: small silver trout; “bait stealers” Paul called them. They were too small to keep, and they depleted several of our shrimp. I looked around at other fishers and none of them seemed to be catching any noteworthy fish either. “Maybe we should head over to the lighthouse,” I suggested.

“Just give it a little while longer,” Paul insisted. Patience and perhaps a good intuitive sense were some of Paul’s other virtues. I’m not sure if it was the bald eagle flying in from the coast, swooping low, or the osprey that soon followed, or the rising tide – maybe all three – but they seemed to signal the beginning of some real fishing. Speckled trout, almost all of them over the legal limit, soon began hitting our shrimp with intensity. Over the next hour, we began filling our cooler, Paul catching most of the fish, of course. Paul told me that my leader was too big and ugly; it was scaring the fish. He gave

me one of his homemade rigs. After tying it onto my line, my luck started to improve.

When the fishing action paused, we paused and pulled over to shore for a bathroom break. It was a small rocky beach almost hidden by marsh grass. Setting foot on the bank, stretching, we looked down and were amazed at how the ground was littered with pottery pieces and chipped chert (a soft flint-like stone). Native people, too, once came here to fish, people who used cypress dugout canoes, while we were using one made of fiberglass. I picked up some of the orange, white and gray chert pieces and held them in my hands for a moment before returning them.

Man has always fished, I believe, as soon as he had the ability to do so. Predator and prey have an age-old bond, and if fishing with the right attitude, we fit in as much as the eagle and osprey. The tides pulse and so do the fish, it seems, back and forth with the flow – fish

following fish, and man searching for his dinner.

Paul and I decided to make some casts from shore. It felt good to be able to move around. With a fully loaded canoe and two people, you just don’t try to stand up.

As if by design, larger fish began to hit: redfish! After a mighty struggle, Paul was able to reel his first one to within a few feet of shore, a whopper about three feet long. It shook itself loose just before I could bring the net under it. It was clearly over the legal size of 27 inches, but still a fun fight. We didn’t stop there, and neither did the reds. I caught one about 23 inches and Paul caught a 22-inch one, both keepers.

Our struggles and shrieks of excitement drew some attention. Other fishers in fancy boats began forming a semi-circle around us. I wondered what they thought about two guys in an old canoe on shore, one who had a pole repaired with silver duct tape (Paul’s), but you can’t



Paul Force poses with a large redfish (red drum) he had caught.



Early morning along the Big Bend coast.

argue with success. They gave us just enough room to cast.

The other fishers had puzzled looks on their faces when we got some more big hits and they didn't. One broke my line, so I quickly switched to my back-up pole. We caught a couple more reds and released them. I was pleased that some of Paul's luck was rubbing off on me. The other fishermen just stared in wonder. It was almost funny, but I dared not laugh. I had seen the same scene play out time and again when fishing with Lucky Paul, like the gawkers who gather around the lucky winner at the roulette wheel, the guy the casino hates to see come through the door.

It was difficult to leave with the fishing so good, but we had a full cooler—our legal limit. We had to leave fish for the eagles, the osprey, the dolphin and others, of course. This batch would feed our families for a month. I would view each meal of the Aucilla fish as a type of communion with a pristine place that had no factories, towns or subdivisions along its banks. Each bite would bring me closer to the water and marsh, the pulsing tides,

the gnarled cypress and cedar, the eagle and osprey. Fish like that can't be anything but good for you.

I knew that when my last bag of fish in the freezer was consumed, it would be time to give Lucky Paul another call.

CANOE FISHING

Advantages

- **Accessibility:** You can reach those shallow and hard to reach areas and there are few worries about oyster bars, sand bars or getting trapped by low tide.
- **Security:** You're not dependent upon a motor and the myriad of things that can go wrong with it.
- **Exercise:** Paddling is great for your arms, shoulders and cardiovascular system.
- **Cost effective:** After a limited investment, it's just you and the paddle.

Disadvantages

- **Risk:** Canoes are not as stable as most other boats in windy, choppy conditions.
- **Speed:** You can't get to your

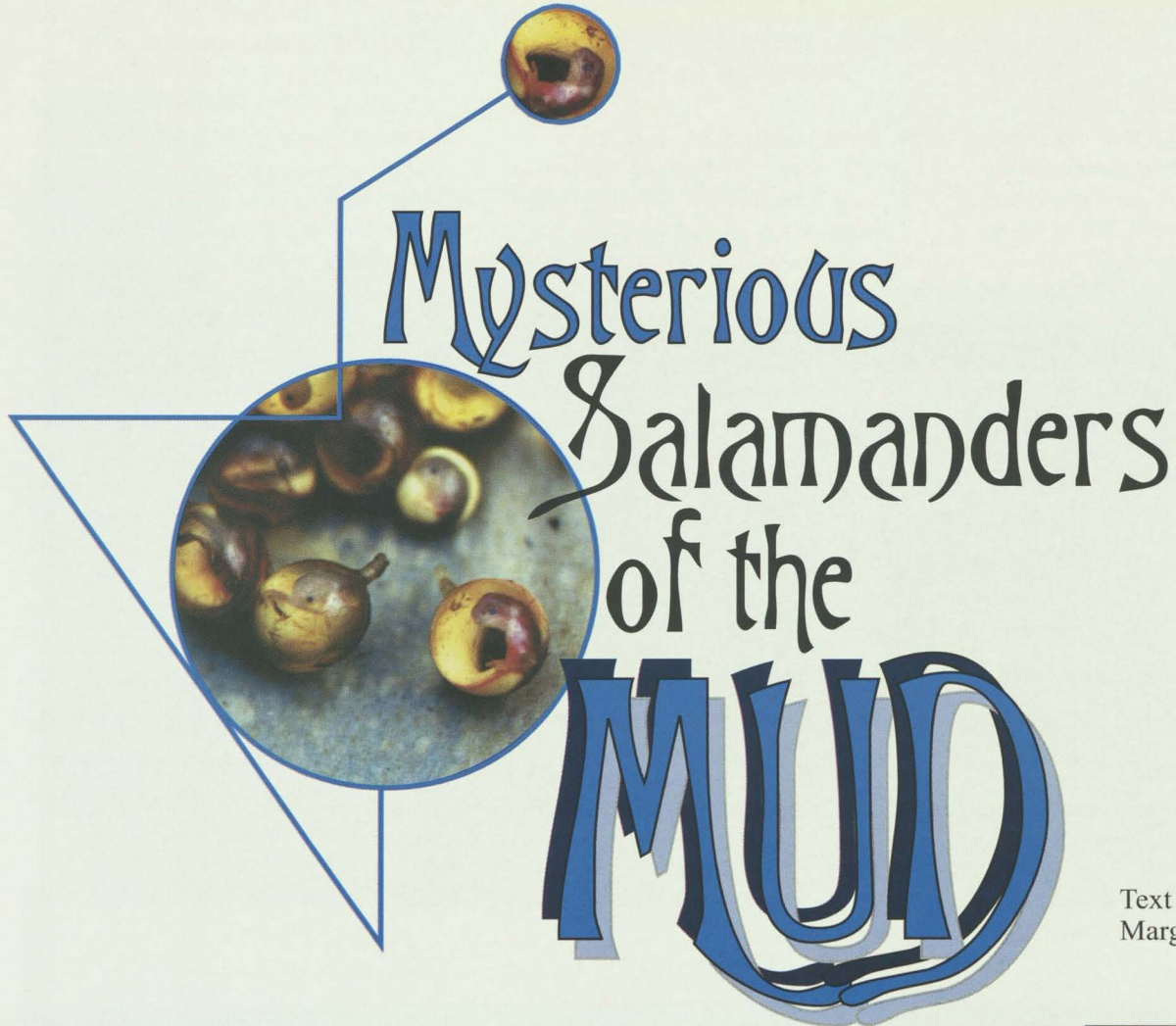
favorite fishing areas as quickly.

- **Distance:** You don't want to take a canoe more than a mile or so into the Gulf.
- **Space:** You can't stand up and move around a whole lot.

Getting There

The lower Aucilla River is located along U.S. 98 about twenty miles west of Perry and thirty miles southeast of Tallahassee. There are plenty of restaurants and places for lodging at both places and there is a small bait store near the turn-off for the landings. The river has two landings that are clearly marked. One is just north of U.S. 98 about a half mile above the highway bridge. The other is along a well graded road about three miles south of the bridge. The turn-off can be found about a mile and a half east of the bridge along Highway 98. Signs point the way. 🗺️

Doug Alderson is a free-lance writer, photographer and environmental educator in the Tallahassee area.



Mysterious Salamanders of the MUD

Text and Photographs by
Margaret S. Gunzburger

As I trudge through the thick, soupy mud on the edge of Lake Iamonia in northern Leon County, I desperately hope I don't wade in above the height of my boots. Nothing worse than mud-filled boots (except mud-filled waders). I am searching for amphiumas (pronounced am-fee-U-ma) and sirens, two species of large eel-like aquatic salamanders. Up ahead I spot a medium-sized one, about one and a half feet long, writhing in the mud overturned by the machinery that is being used to dredge the lake bottom. Most people think I'm strange, many think I'm crazy, when they find out what I'm looking for and usually they have questions for me. "What are they?" "What do they eat?" "Do they bite?" And always, "What good are they?"

Most people have never seen these salamanders, and many prefer to keep it that way. Some can't even bring themselves to look at the writhing creatures in my bucket. However, many people who have spent a lot of time around the waters of our state are familiar with these animals and call them "ditch eels" or "congo eels". But amphiumas and sirens are not eels, they are salamanders, a unique and relatively unknown group of amphibians. All salamanders are poorly known, and amphiumas and sirens are probably the most obscure, as they tend to be more difficult to catch and study than other amphibians. Both sirens and amphiumas are found only in the southeastern United States and can be very abundant; I caught over 50 in an area half the size of a football field at Lake Iamonia. They tend to be reclusive, hiding in the mud during the day and foraging in the shallow water at night. Almost nothing is known about them, including how fast they grow, what their courtship and other behaviors are, and how long they live.

When most people think about salamanders, if they ever do, they think of the



newt, the friendly red-spotted amphibian you may have seen in the woods in our area, or even in a pet store. Newts are typical salamanders with moist skin, four legs and a long tail. Amphiumas and sirens are not your typical salamanders. Their most unique feature is their large size, both species regularly grow to lengths over two feet, and with record size specimens of over three feet, these species are among the largest salamanders in the world.

Amphiumas and sirens appear similar to most casual observers: long, dark colored and usually covered in muck. However they are actually quite different if you get up close (don't worry, they hardly ever bite!). Amphiumas are more slender and cylindrical in shape, with uniform dark brown coloration above and a dark gray belly. Amphiumas have very

reduced fore and hind limbs, with either one, two or three toes, depending on the species. Amphiumas have a long, pointed snout and powerful jaws for grabbing and crushing prey including crawfish, aquatic insects, frogs and other salamanders.

Sirens are more stout than amphiumas and have a strongly keeled,

paddle-shaped tail that allows them to swim very quickly through the water. Sirens are unique in that they have rather well-developed forelimbs and no hind limbs at all! They also have large, fluffy external gills that they use to take oxygen from the water, although they will also gulp air from the surface. Unlike

amphiumas, sirens have a shorter, rounded snout with a small, suction-type mouth. Sirens are omnivorous, they eat snails, aquatic plants, algae, and may also scavenge for dead animals on the lake bottom. Coloration is usually dark brown to olive green, often with yellowish or light green flecks and spots on the belly. There is some controversy among biologists as to the origin of the name "siren", some contend it is due to the animal's similar anatomy

to the sirens of Greek mythology, creatures that had the head, arms and torso of a woman but the slimy tail fin of a fish. However, others think the name originates because sirens are among the few salamanders that can vocalize, producing a quiet yelping sound when distressed. Both amphiumas and sirens are eaten by a variety of animals, including alligators, large birds, fish (including bass) and snakes. These salamanders probably depend on their ability to hide to avoid predation. However, both species will secrete copious amounts of slippery slime from their skin if they are distressed, making it difficult for a predator (or a biologist like myself!) to handle them.

Amphiumas and sirens are usually found in slow-moving waters such as lakes and ponds. They prefer shallow lake edges with lots of aquatic vegetation to hide and forage in and plenty of organic sediment ("muck") to burrow in. If their lake or pond begins to dry down, these salamanders burrow into the muck and secrete a papery cocoon to prevent themselves from drying out. They enter a resting stage, called aestivation, similar to hibernation in mammals, where their metabolism greatly slows down. No one really knows how long they can survive in aestivation, but one researcher kept one in ▷



Sirens have a more rounded snout with well-developed front legs.

Page 22: Salamander embryos.

Below: Salamander eggs are connected like beads on a string.



mud in a tank in his lab for over two years without feeding. So the next time you look out at a dried pond or lake bottom, overgrown with grasses and dog fennel, imagine the hundreds of salamanders sleeping out there under the dirt! When the water returns, the salamanders come out of their aestivation chambers and resume life as normal. Having a thick layer of organic sediment on the bottom of lakes and ponds for the salamanders to burrow into is critical to the survival of these species during drought conditions.

Salamander Eggs

One day while at Lake Iamonia, I was called over to a pile of mud near the machinery by the crew members. They had spotted an amphiuma and wanted me to come rescue it before it got loaded into a dump truck and carted away. As I reached into the dirt to pick up the two-foot salamander, I saw that it was wrapped around what at first glance looked like a pearl necklace, all covered in mud and dirt. I grabbed the "necklace" and ran out of the way of the machinery.

That's when I discovered that this was no necklace, it was a clutch of amphiuma eggs, being carefully attended by their mother! Amphiuma eggs have only been found several times before, being even more difficult than the adults to find. Female amphiumas lay their eggs in their burrows and then coil around them during their development until they hatch. The eggs are unlike any other salamander egg, about one centimeter in diameter, and connected to each other by a thin, rubbery string, resulting in a long strand some biologists have described as similar to rosary beads. The eggs are almost transparent, and the tiny embryos are visible inside. I could see their eyes, gills, and little legs, and the large yellow yolk sac they use for energy. The embryos are very active inside the egg, turning over and wiggling around.

This clutch contained 143 eggs, at a total weight of 129 grams, about a quarter of a pound, one third the weight of their mother. Obviously, female amphiumas make a large investment in providing yolk for all their eggs and so they attend them during development to increase their survival. Several other salamander species attend their eggs, and it has been suggested that these females defend their eggs from predators, keep the eggs moist,

and may even secrete antibiotic substances from their skin to prevent the eggs from becoming infected with bacteria or fungus. Throughout the course of the dredging, two more clutches of eggs were found by myself and fellow graduate student Matt Aresco. All clutches were found with a female amphiuma in attendance.

I decided to raise these eggs through hatching in order to learn more about them, how long they take to hatch, and what triggers them to hatch. So for the past few months I have been caring for the eggs and baby amphiumas at our research facility at Florida State University in Tallahassee. The eggs seem to hatch when inundated with water, but they can wait for months in the egg until they feel the time is right and then they come out. Hatchling amphiumas are about two inches long and are exact replicas of their parents except they have filamentous gills on either side of their head. These gills are absorbed by the body in about two weeks and the amphiuma begins foraging for tiny crustaceans and plankton. I have learned a lot from these three clutches of eggs, but I've come up with more questions than I've answered: how long can the eggs wait before hatching, will the hatchlings remain in the burrow with their mother and how fast do the tiny ones grow?

What Good Are They?

So what did I tell people when they asked me "what good are they"? This was a hard question for me because that's not

how I think of nature. To me, just the fact that they're out there, living their quiet lives beneath the mud, is enough. Although they are probably not considered "useful" to people, I am sure they are very important in the habitats where they live. They may regulate their prey populations while at the same time serving as important prey for alligators and other predators. There are so many things about these animals that we don't know, and I would be happy to spend more time learning the mysteries of how they breed and reproduce and how they fit into the aquatic ecosystem. Maybe these species serve as a reminder that although we think we know a lot about the world around us, there are still a lot of mysterious creatures that we don't understand.

I returned the salamanders I found in the mud at the dredging site to the nearby waters of what remained of Lake Iamonia. I would go out at twilight, when these species start to become active for the night, and release them one at a time into the still, shallow water. Watching them slither into the mud where they would continue their lives, unknown to just about everyone, I was filled with a sense of wonder and respect for these strange, unique creatures. 🐸

Margaret Gunzburger is a graduate student at the Department of Biological Science at Florida State University, Tallahassee.



Amphiuma salamanders have pointy snouts, tiny front legs and no external gills. They do have a gill slit just in front of their front leg.

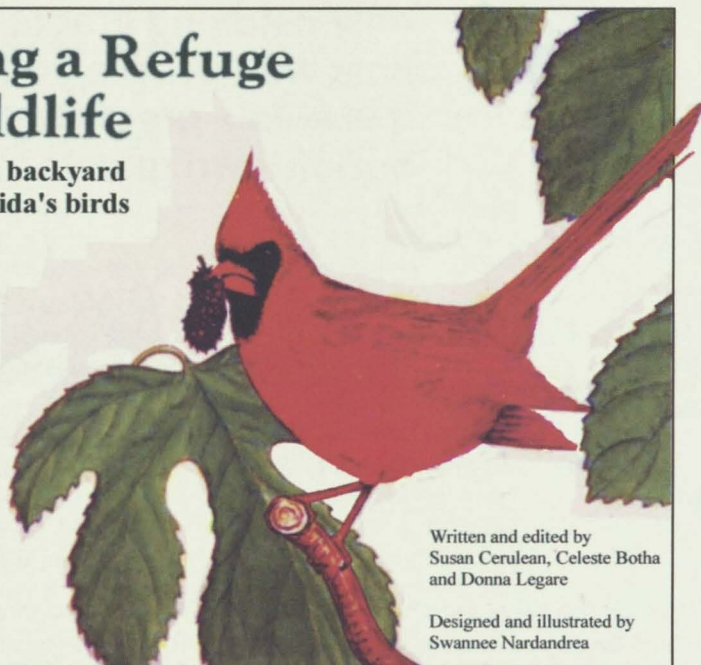


Planting a Refuge for Wildlife

How to create a backyard
habitat for Florida's birds
and beasts.

Florida Game and
Fresh Water Fish
Commission
Nongame Wildlife
Program

United States
Department of
Agriculture
Soil Conservation
Service



Written and edited by
Susan Cerulean, Celeste Botha
and Donna Legare

Designed and illustrated by
Swannee Nardandrea

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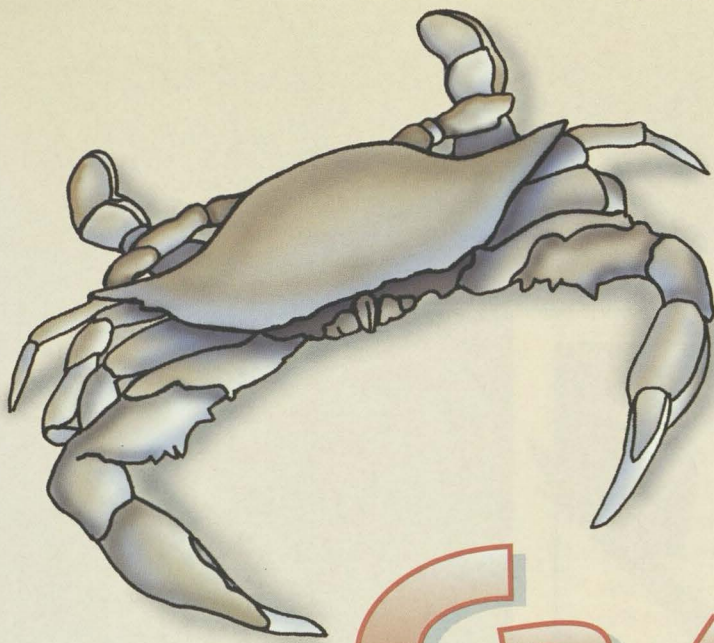
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Casting is a wonderful way of not only catching crabs, but spending time with people you are close to. It is also a great way to entertain out-of-town guests.

CRABBING

By Duel Christian

The voice on the other end of the phone said, "The wily crab swims under the full moon."

The voice belonged to my friend Mike. The statement could mean two things. Either Mike reads way too many spy novels, or he wants to go crabbing tonight. Well the answer happens to be all of the above. Mimicking in my best James Bond accent (Sean Connery of course!) I answer, "But he will dance in my soup pot."

Now it's time to get down to the business of preparation. There are many ways to go about catching the delectable and elusive blue crab. Traditionalists drop a baited trap over the side of a dock or pier and forget about it for a day or two.

Those who prefer a bit more adventure will wade around sand flats with a flashlight and scoop nets. Pish Posh. I have done both, and while they reveal decent results, neither can compare to the thrill of casting.

In order to catch crabs by casting, you need at least four good friends, a ball of stout twine, two scoop nets, a couple of halogen flashlights, heavy weight sinkers,

several fish heads and a big bucket to hold the myriad of crabs you will catch.

As I go about securing the provisions for a night of crabbing, Mike calls on a few other friends to get the required five bodies we need for casting.

We have chosen a nice patch of beach on St. Andrew's Bay near Panama City to be our base of operations. Each one of my comrades has a task. Check flashlight batteries, inspect the nets for holes etc. My job is to bait the line.

I take the ball of twine and run the end of it through the eyes of the fish heads. This sounds a little gross, but it ensures they won't come off easily. I then tie the weights on and make a loop out of the twine and tie it off. I now have a big weighted ball of bait at the end of the twine.

While everyone else is busy with their tasks, I wade out to thigh-deep water. Swinging the bait like a lasso, I let out more twine until I have a big circle of flying fish heads swirling over my head. With a manly grunt I fling the bait far out into the inky depths of St. Andrew's Bay. Now the wait begins.

As I tie off the other end of the twine

to a stick and thrust it into the ground, my friend Terry remarks what a clear night it is. Looking up into the darkness, I can see all heaven stretched out before me. We are a pretty good way out from civilization so there is not much light pollution, and shooting stars hurl themselves against Earth's atmosphere and die in a blaze of glory.

After about fifteen minutes Mike stoically remarks, "It is time." Now comes the fun part. I act as the "reeler." I gently grasp the twine in both hands and ever so slowly pull the bait in, hand over hand. Ten feet in front of me Terry and Geordie act as the "netters." They stand to either side of the twine, grasping the scoop nets, looking like two Roman sentries on some barbarian outpost. Mike and Tre are the "light bearers." They stand out farther than the netters with halogen flashlights aimed about five feet in front of the netters, creating an intense pool of light.

Finally the bait looms into view at the edge of the light. Geordie whispers through clenched teeth, "I think I see two."

He's right. There are two fat blue

crabs intently following the bait into our clever little trap.

The netters wait, still as the Great Pyramid of Giza, until the bait reaches the center of the light. Then, springing like coiled rattlesnakes, they lash out with their nets. There is much spray and chaos. After what seems like an eternity (in reality only about three seconds) the netters hold up two beautiful blue crabs, glistening in the artificial halogen light.

As the great hunters pound their chests and grunt, reveling in their prowess, I set about the task of casting the bait back out into the darkness. This is just one of many casts I will make this night as well as taking turns as a netter or a light bearer.

Casting is a wonderful way of not only catching crabs, but spending time with people you are close to. It is also a great way to entertain out-of-town guests. It involves everyone in your party and gives everyone a chance to net a crab.

Midnight draws near and we decide it is time to leave. We have enough crabs to fill us all. We even missed a few. One tried to swim up Geordie's swim suit leg, causing him to flap his arms and squawk like a goose and then spew out a list of profanities that could peel the paint off a truck.

All in all, we left knowing that we had a good time, and were the better for it.

Blackened Grouper and Crab Tacos with "Drunken" Pico de Gallo

This is an exceptionally tasty dish that combines Cajun and Mexican cuisines. Pico de Gallo means "beak of the rooster" in Spanish. It is also a delicious chunky salsa that complements the seafood in this dish.

Ingredients:

Tacos

- 3 lbs. of grouper filet or other firm white flesh fish
- 4 cups crab meat
- 2 cup melted butter
- blackened redfish seasoning
- taco shells

"Drunken" Pico de Gallo

- 4 large ripe tomatoes
- 1 Vidalia onion
- 1 red onion
- 2 jalepeno or 4 banana peppers
- 1 bell pepper
- 1 cup fresh cilantro leaves
- 1 tsp ground cumin
- 1 tsp ground coriander
- 1oz. tequila

Preparations

Heat a castiron skillet on high setting for a couple of minutes.

Place melted butter in a bowl.

Drag grouper filets through butter to coat evenly.

Sprinkle blackened redfish seasoning very liberally over both sides of fish.

Place filet into super hot skillet for about 60 to 90 seconds.

Using a heavy metal spatula, flip filet and repeat.

(The fish will stick to the pan. It also creates a lot of smoke. Ventilate well.)

Remove filet and place in a large mixing bowl.

In a separate skillet, saute crabmeat over a medium-high heat in a little butter until done, a minute or two.

Remove crabmeat and place in

mixing bowl with the fish. Using a fork, mash the fish and crabmeat together until both are blended well.

Pico de Gallo

Dice all vegetables into small, chunky pieces and place into a separate mixing bowl.

Chop up cilantro and add to bowl.

Add the cumin, coriander and tequila, and mix all ingredients with a wooden spoon until all are blended together.

To Eat

Spoon seafood mixture into taco shell. Add a generous amount of pico de gallo on top.

Serve with refried beans and Mexican rice. Goes well with all brands of Mexican beer or a good Chardonnay.

There you have it. A great recipe for entertaining guests or just for an epicurean trip out of the ordinary to wind up a long summer Sunday afternoon.

Enjoy. 🍷

Duel Christian is a FWC videographer and a great cook residing in Tallahassee.



Doug Stamm

The elusive blue crab can be as much fun to catch as it is to eat.



Doug Perrine

MANATEES

and Monofilament

By Beth Davidow

Thousands of people fish Florida's fabulous waterways. From Port Canaveral south through the Keys, world-class fishing areas are fouled with transparent tangles of discarded fishing line that snarl boat propellers and clog intake valves. The monofilament also ensnares wildlife and when eaten blocks digestive systems. The hard-to-see debris is a threat to the slow-moving manatee. Between 1974 and 2000, 112 manatees have been rescued to remove the monofilament line or discarded cast nets entangling their bodies. Twenty-four of those cases involved monofilament ingestion and another seven also included impalement with fishing hooks.

Approximately 3,200 endangered manatees live in Florida's waters. Watercraft deaths are the primary cause of human-related manatee mortality, but monofilament entanglement is a danger to

wildlife. Feeding on vegetation, a manatee may accidentally ingest a clump of monofilament twisted around a plant. Swimming through a snarl of invisible discarded line, a manatee's tail or flippers may become wrapped in the monofilament. Brevard and Monroe counties account for roughly 33 percent of the manatee rescues that involve monofilament, according to the Florida Fish and Wildlife Conservation Commission (FWC).

One manatee, named Jessica by rescuers, may lose a flipper as the line cut deeply through flesh and muscle. "Most manatee entanglements appear to occur in crab traps," said Ann C. Spellman, marine mammal biologist with the FWC. "Crab trap entanglements are highly visible because the manatee drags a float around. The number of manatees entangled in discarded fishing line is grossly under represented. Until the injury is severe

enough for people to observe the entwined manatee, the animal may not really be noticed," explained Spellman.

To help protect manatees and other animals from discarded monofilament, Leesa Souto of the Brevard County Natural Resources Management Office started a program to increase public awareness about the situation. The Monofilament Recovery and Recycling Project started in May 2000. Outdoor bins, built by Rockledge High School students, have been placed around Brevard County marinas and piers for the collection of used monofilament. "Volunteers are assigned to each bin and they clean the line, remove hooks, gear, and organic material and then take it to one of the Berkley recycling containers located inside a tackle shop," said Souto.

Harry Goode, owner of Harry Goode's Outdoor Shop in Melbourne, reported that his customers are receptive to the recycling effort. "We fill up a box about every other month, perhaps 50 to 60 pounds worth of line. Fishing line manufacturer Berkley provides the prepaid recycling boxes, so we just stick the UPS label on the full box, send it back and put a new one in its place." In its first year, the program has caught on well.

In Monroe County, Brian Weinstein of Save-the-Manatee Club has followed the lead of the Brevard County project. Government agencies, civic groups, non-profit environmental organizations and the fishing and business communities have joined forces to increase the public's awareness to the dangers of discarded monofilament and a monofilament collection and recycling program in the Keys. "We hope to expand the monofilament awareness and recycling projects into other counties," said Weinstein. "By keeping the monofilament out of the waters, manatees and other wildlife won't have to deal with these invisible webs of death."

"The most important thing we can do," added Harry Goode, "is to educate people about the need to dispose of their used line properly." 🐬

Beth Davidow writes from Miami.

Wildlife Friend:

Albert Henderson

By James Call

Albert Henderson's Florida roots run deep. His grandfather homesteaded east of St. Cloud in the 1880s. Henderson himself was born 68 years ago on a central Florida timber ranch. His dad was a logger for the Consolidated Land Company on property now part of the Deseret Ranch. There along the watershed of the St. Johns River, as a boy Albert hunted, trapped and fished. He grew close to the land and familiar with remote areas of the Florida wilderness. He'll nonchalantly mention that he has owned an airboat for 45 years.

"That's the way I was raised," recalled Albert. "It was old Florida, the serenity, the beauty."

Albert still lives in the area, in Melbourne. And he still wanders the land and waterways he traveled as a boy. He takes biologists out into the wilderness in a swamp buggy. He builds bird houses for bluebirds, wood ducks and bats. He helps with wildlife counts for the Florida Fish and Wildlife Conservation Commission. He does all this as a member of the Friends of Bull Creek, an eclectic group of 120 hunters, bird watchers, hikers, members of the Audubon Society and horse associations along with individuals who Albert refers to as "the plant people." The group was formed in 1997 to oppose a government proposal and has evolved into an unofficial support organization for the Bull Creek Wildlife Management Area.

A few years ago the St. Johns Water Management District announced plans to trade 23,000 acres of primitive land in what Albert considered his stomping ground for land farther south near the St. Johns head waters. That was all Albert needed to hear.

"I live out here and this is my

recreational area," he noted. "If we don't save some of these green belts there won't be any."

His pitch to whom he considered kindred spirits was simple.

"If we aren't involved," he would say, "then something might come about that we can't do anything about."

This was the approach that enabled Albert to attract a diverse group to an effort to keep a part of Florida open to the public.

"We knew we couldn't fund this with just hunters," Albert explained. "So we reached out."

The Friends of Bull Creek changed the minds of bureaucrats. Henderson and his group stopped the land swap. Then they set about to preserve it. The group sponsors at least six events a year, including three cleanups where

trash and debris are hauled out of Bull Creek. Members plant trees and offer help to wildlife biologists working various projects. Ironically, a group formed to oppose a St. Johns Water Management District proposal was recognized by the district for its contributions to conservation with the 1999 Bob Owens Award.

Friends of Bull Creek frequently attend meetings of the St. Johns Water Management District and the Florida Fish and Wildlife Conservation Commission.

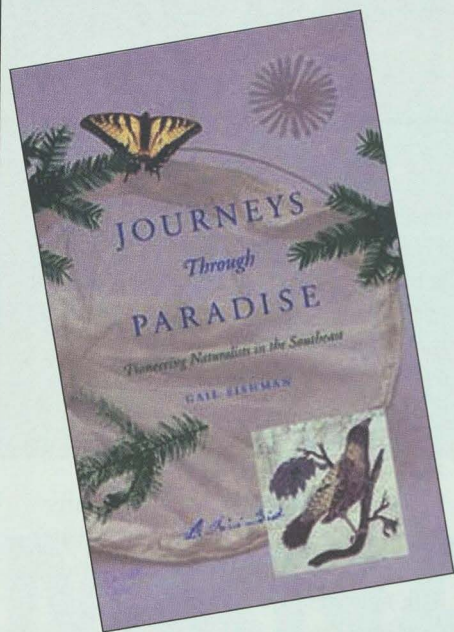
"We just don't want the bureaucrats to do anything we can't control," Henderson explained.

"I was raised out here. I raised my children out here and now I'm raising my grandchildren here," he said. "That's what it's all about." 🐾



Albert Henderson: "We just don't want bureaucrats to do anything we can't control."

Book Reviews



***Journeys Through Paradise:
Pioneering Naturalists in the
Southeast***

Gail Fishman

University Press of Florida

ISBN: 0-8130-1874-9

\$24.95

The idea behind *Journeys Through Paradise* is intriguing. Gail Fishman retraces the routes of naturalists who wandered the southeast when it was a frontier. This gives her an opportunity to lament the changes civilization has wrought and to profile well-known naturalists like John Muir and John Bartram and lesser known ones like Andre Michaux and John Kunkel Small.

Fishman's writing shines when profiling the 13 men who explored the wilderness between 1715 and 1940. Armchair historians will be delighted by the insight she offers to the way life was lived in the 18th and 19th centuries. Her research and storytelling ability offers hints at what may have motivated these men to set off into uncharted territories and document plant life during and before the

settlement era. Fishman draws these individuals as humans and not Indiana Jones type characters. Not an easy task when one considers the story of William Bartram trying to prepare a meal along an alligator-infested bank of the St. Johns River.

Fishman does such a good job with this part of the book that the second part, visiting the areas where the pioneers traveled, suffers in comparison. After reading about Michaux's and Bartram's adventures in wild Florida, a description of a present-day boat ride through central Florida holds one's attention like a walk in a park. But then again that is part of the fun of this book. To paraphrase Fishman, much of our history is encased in asphalt. Books like *Journeys Through Paradise* give one a reason to pause and consider what the land was like before our time and the kindred spirits who worked to preserve it.

***The Mostly Mullet Cookbook:
A Culinary Celebration of the South's
Favorite Fish***

(and other great Southern seafood)

George "Grif" Griffin

Pineapple Press

ISBN 1-56164-147-2

\$10.95

George Griffin is a mullet fan. Many people enjoy eating mullet, but it takes a certain amount of passion to argue why mullet is good for you.

Before Griffin shares different ways to prepare mullet, a fish he refers to as a pecan with fins because of its nutty taste, he praises the mullet for its nutritional benefits.

It's healthy heart food. Yep. One four-ounce mullet fillet will supply nearly half the protein an adult requires for an entire day. Why someone low on protein may actually experience a protein lift after eating mullet. Griffin refers to this as a "mullet high."

And don't get him started on the

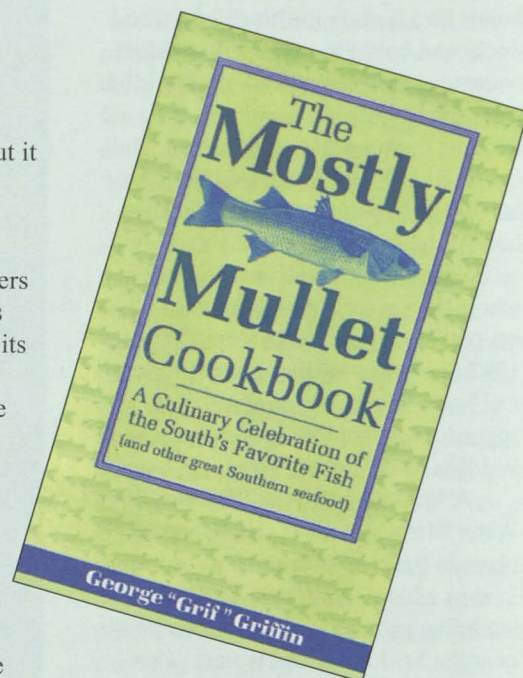
importance of Omega-3 oil in your diet. We kid. That's because *The Mostly Mullet Cookbook* is a useful little book and a fun read. It is a recipe book and so much more. The mullet facts, folklore, nutrition and brain chemistry discussions (yes, I ask you, how many recipe books have you read that tackled the human brain?) are the trimmings.

The main course here is more than 80 recipes, mostly mullet, but there are other recipes for redfish, hot sauces, trout and crab cakes. The mullet holds center stage here and Griffin includes recipes to prepare an Around the World Mullet Buffet featuring such dishes as Smoked Mullet Romanoff, Mullet Caesar Salad, Molly O'Mullet Stew and Jamaican Mullet.

Griffin has a passion for the mullet and he serves it along with some very tempting recipes.

The Mostly Mullet Cookbook may be purchased from Florida Mail Press, PO Box 6, Old Town, FL 32680-0006 for \$10.95 check or money order. 🐟

— Reviews by James Call



The North American River Otter

(*Lontra canadensis*)

By James Call

Illustrated by Lizabeth West

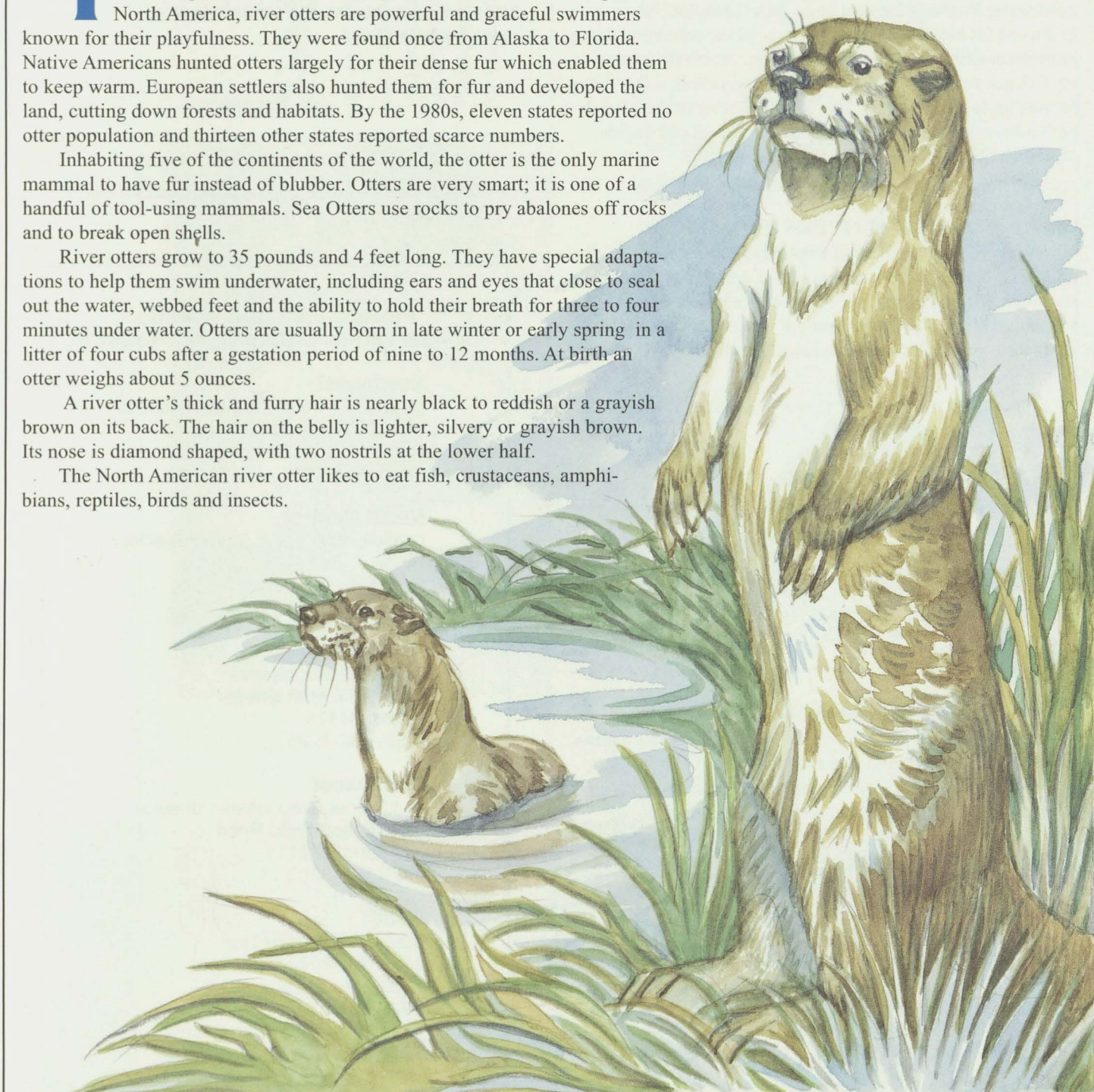
The North American River Otter is probably the most numerous of 13 otter species. Found in or near rivers and wetlands throughout North America, river otters are powerful and graceful swimmers known for their playfulness. They were found once from Alaska to Florida. Native Americans hunted otters largely for their dense fur which enabled them to keep warm. European settlers also hunted them for fur and developed the land, cutting down forests and habitats. By the 1980s, eleven states reported no otter population and thirteen other states reported scarce numbers.

Inhabiting five of the continents of the world, the otter is the only marine mammal to have fur instead of blubber. Otters are very smart; it is one of a handful of tool-using mammals. Sea Otters use rocks to pry abalones off rocks and to break open shells.

River otters grow to 35 pounds and 4 feet long. They have special adaptations to help them swim underwater, including ears and eyes that close to seal out the water, webbed feet and the ability to hold their breath for three to four minutes under water. Otters are usually born in late winter or early spring in a litter of four cubs after a gestation period of nine to 12 months. At birth an otter weighs about 5 ounces.

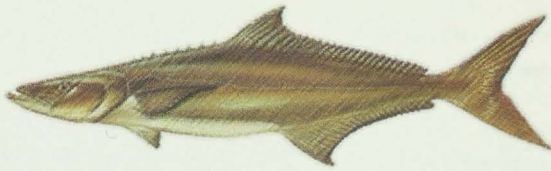
A river otter's thick and furry hair is nearly black to reddish or a grayish brown on its back. The hair on the belly is lighter, silvery or grayish brown. Its nose is diamond shaped, with two nostrils at the lower half.

The North American river otter likes to eat fish, crustaceans, amphibians, reptiles, birds and insects.



CONSERVATION UPDATE

Compiled by James Call



COBIA RULES

The cobia is now a "restricted species," which means that a Saltwater Products License and a Restricted Species Endorsement are needed to sell or exceed the recreational bag limit. New daily possession limits are one cobia per person or six fish per vessel, whichever is less. Commercial fishers may harvest up to two cobia per day but must observe the six fish per vessel rule. Violation of daily limits is a second degree misdemeanor punishable by a fine of up to \$500.

PIPING PLOVERS PROLIFIC

A record number of threatened piping plovers was spotted on Martin County beaches during a national count. The Audubon Society's Greg Braun reports volunteers counted 12 of the rare birds. A population count is conducted every five years throughout the Southeast and Caribbean.



BASS RADIO

The Florida Fish and Wildlife Conservation Commission is fitting bass with small radio transmitters at Lake Jackson in Osceola County to document movement patterns. Ten transmitters have been implanted in bass ranging from 5 to 9¼ pounds. Each transmitter emits a different signal so the location of each fish can be recorded. Biologists will track fish movements across various weather, seasonal and water level conditions as well as moon phases. Although the transmitter itself is not visible, a flexible, 12-inch wire antenna protrudes from the fish's abdomen and extends back toward the tail. If anyone catches a study fish, they are asked to release it back into the water as quickly as possible.

AN OCEAN VIEW

The Pew Oceans Commission, *Marine Pollution in the United States: Significant Accomplishments, Future Challenges*, offers general background on issues of coastal pollution, principally nutrient enrichment from non-point sources as well as toxic pollutants. The report offers some specific examples of the Gulf of Mexico and other sites. You can review the report by pointing your browser to http://www.pewoceans.org/commissioners/coast_pollution.html.

DEADLINES

2001 Florida Wildlife Art Contest: May 16

2001 Florida Wildlife Photography Contest: June 15

Florida Fish and Wildlife Conservation Commission Regions

Northwest

Lt. Colonel Louie Roberson, director
3911 Highway 2321
Panama City, 32409
(850) 265-3678

North Central

Lt. Colonel Julie L. Jones, director
Route 7, Box 440
Lake City, 32055
(904) 758-0525

Northeast

Dennis David, director
1239 S.W. 10th Street
Ocala, 34474
(352) 732-1225

Southwest

Lt. Colonel Greg Holder, director
3900 Drane Field Road
Lakeland, 33811
(863) 648-3203

South

Mark Robson, director
8535 Northlake Boulevard
West Palm Beach, 33412
(561) 625-5122

TTD (850) 488-9542

CONSERVATION UPDATE



Ask The Lieutenant

Lt.,

I dog hunt around Jackson trail in northern Blackwater State Forest. Now, as a hunter I am required to wear orange clothing; a law I think that is a good idea. My question is why the hikers on Jackson trail are not required to wear orange? I believe the same standard needs to be applied to the hiker and the hunter.

— Kevin

Dear Kevin:

You are correct that deer hunters are required to wear hunter orange (500 sq. inches) on public hunting areas in Florida. The Legislature passed the Hunter Orange law as a safety measure and to reduce hunting accidents in the "mistaken for game" category. There are many public areas where hiking and hunting are allowed at the same time. So far, we've never investigated an incident where a hiker was mistaken for game. You make a good suggestion and it is wise for people who hike, bird watch and picnic in an area open to hunting to wear hunter orange.

— Lt.

Hello Lt.,

I live in Northwest Florida and have been seeing a good number of Eurasian doves. I was wondering if it's ok to hunt them. If so, is there a season and bag limit?

— Liz

Hello right back to you Liz.

The Eurasian, also known as the collared dove, you're seeing is an exotic species from the Middle East and is unprotected by both state and federal law. In other words, they're game anytime of the year and you can shoot as many as you want. But, make sure you are not discharging a firearm within the boundaries of any municipality. That is prohibited by law and if you did you would become fair game for police.

— Lt.

Lt.,

I have a couple of questions regarding Point Washington Wildlife Management Area.

Will there ever be a dog training season? And will there ever be a doe season in the dog hunt section?

Your reply will be much appreciated.

— M.D.

Well M.D.,

We sure do appreciate being appreciated so here's my best shot. Let me take your second question first. Deer populations on public land throughout Florida are generally

lower in dog hunt areas. Therefore I think it unlikely that a doe season in the dog hunt section would be scheduled anytime soon.

Now on to your first question. The hunting schedule includes a fox, raccoon, opossum and bobcat season, November through March and April 23 through July 15 (check your Hunting Handbook for the annual dates) during which you can use free-running dogs in all or part of the dog hunt area. If you would like more information contact our Wildlife staff at (850) 265-3676.

— Lt.

CALENDAR

MAY

- | | | |
|-------|---------------------------------|-------------------------|
| 5 | Moss Park Wading Festival | Orlando |
| 8 | Whooping crane discussion | Chinesgut Nature Center |
| 10-13 | Florida Native Plant Conference | Palm Harbor |
| 12 | Kids Fishing Clinic | Cape Canaveral |
| 16-18 | Wetlands Conference | Orlando |

JUNE

- | | | |
|-------|---------------------------|-------------------------|
| 2-3 | Ladies, Let's Go Fishing! | St. Augustine |
| 5 | Butterfly Walk | Chinesgut Nature Center |
| 9 | Kids Fishing Clinic | Panama City Beach |
| 18-22 | Marine Ecology Camp | Crystal River |
| 19-21 | Natural Resources Forum | Tampa |
| 23 | Kids Fishing Clinic | Fernandina Beach |

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- When Trees Can Talk



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